

**GEOSTRATEGIC IMPORTANCE OF THE ANTARCTIC OCEAN
WITH SPECIAL REFERENCE TO INDIA**

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ASHIS

**POLITICAL GEOGRAPHY DIVISION
CENTRE FOR INTERNATIONAL POLITICS,
ORGANISATION AND DISARMAMENT
SCHOOL OF INTERNATIONAL STUDIES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI – 110 067
INDIA
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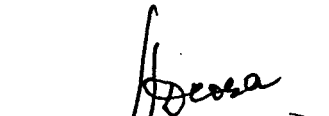
Gram : JAYENU
Phone : 6107676, 6167557
Extn.: 2349
Fax : 91-11-6165886

CERTIFICATE

This is to certify that the dissertation, entitled “**Geostrategic importance of the Antarctic Ocean with special reference to India**”, submitted by Mr. ASHIS, in partial fulfilment of the requirements for the award of the Degree of **Master of Philosophy**, has not been previously submitted for any degree of this or any other University. This is his own work.

We recommend that this dissertation may be placed before the examiners for evaluation.


DR. AMITABH MATTOO
(CHAIRPERSON)


DR. S.S. DEORA
19.7.99
(SUPERVISOR)

Chairperson
Centre for International Politics,
Organization and Disarmament
School of International Studies,
Jawaharlal Nehru University
New Delhi - 110 067

DEDICATED TO

MY PARENTS

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There may be the some flaws in the presentation or in the composition of the text. The responsibility for this is mine alone.

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PREFACE

Antarctic Ocean has attracted increased attention in recent years. This heightened interest is mainly due to the mystery surrounding the pristine waters, the quest for harvesting its rich marine living resources and also the prospects of exploiting huge deposits of the seabed mineral resources. "The stage for the present drama was set in the 1970's, when the first speculative estimates of Antarctica's offshore oil and gas potential were produced and the band of distant-water fishing nations dabbling in the Southern (Antarctic) Ocean began to grow. The 1970s also witnessed both the preliminary rounds of resource management discussions under the auspices of the Antarctic Treaty and the first public challenges of this instrument by nations which has not signed it."¹ All these factors combined with the persistent concern to avoid any international conflicts and geostrategic rivalry in this region, made Antarctic Ocean unique in itself.

"Geostrategy is the study of the spatial distributions of land-, sea-, and air power and the relationship of these to geographical phenomena."² The term was used for the first time in France "in the analysis and

1. Barbara Mitchell, "The Southern Ocean in The 1980s", In E.M. Borgese and Norton Ginsburg, ed., *Ocean Yearbook* (Chicago, 1982), Vol3, P.344.

2. Geoffrey Parker, "Dictionary of Geopolitics", In John O'Loughlin, ed., (London, 1994), P.98

interpretation of changes in world power in the wake of world war II.”³

The contemporary nuclear age has made it necessary that instead of any conflict, the nations should go for strategic co-operation to have an upper hand. In view of the prospects of resources, environmental consequences, presence of islands, transoceanic shipping passages etc, the Antarctic Ocean has acquired ever-increasing geostrategic significance. This is evident from the fact that a lot of debate is taking place between different groups of countries like the developed countries and the developing countries, the Indian Ocean littoral States, Antarctic Ocean countries etc. for a greater say in the Antarctic Oceanic region.

The present study is an endeavour to understand the geostrategic significance of the Antarctic Ocean. The study will also explore India’s concern over this ocean. An attempt will be made to analyse how the geostrategy of Antarctic Ocean will affect India and how India is responding to such a geopolitical reality.

The **first chapter** presents the physical aspects of the Antarctic Ocean. It incorporates various views regarding the delimitation and demarcation of the Antarctic Ocean. It is followed by a discussion on the circumpolar currents, ocean deposits, bottom relief and icebergs.

The **second chapter** discusses the marine resources of the Antarctic Ocean. The Antarctic Ocean is a nature’s bounty as far as the

3. Ibid., P.98

marine resources are concerned. Firstly, Antarctic marine living resources will be discussed. It will be followed by a preview of the treaties and conventions on marine living resources. Then Antarctic mineral resources and related treaties will be discussed. In the end, the prospect of ice as a mineral resource will be examined.

The **third chapter** deals with the geostrategic significance of the Antarctic Ocean. In the beginning, it examines the factors which contribute in making this region geostrategically important. Then it reviews the maritime claims in the Antarctic region. It is followed by a discussion on the Islands and territorial claims in the region. A country-wise profile of the claimed territory is presented. Then it discusses the unclaimed territories and critically examines the relevance of Antarctic Treaty in this field. In the end, the issue of declaring Antarctic region as the Common Heritage of Mankind is discussed.

The **fourth chapter** tries to examine India's concern over the Antarctic Ocean. It discusses the various factors which have made this region geostrategically important for India. This is followed by a review on India and the Antarctic Treaty System. Lastly, some of the criticisms regarding India's active involvement in this region is critically examined.

This study **concludes** with an overall assessment of the chapters. It outlines the geostrategic significance of the Antarctic Ocean in the present situation. It is in this background that India's interests and objectives in Antarctic Ocean are analysed.

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CHAPTER 1

ANTARCTIC OCEAN : PHYSICAL ASPECTS

CHAPTER 1

ANTARCTIC OCEAN: PHYSICAL ASPECTS

Antarctic Ocean is a circumpolar Ocean surrounding the continent of Antarctica. "The southern (meaning Antarctic) Ocean covers an area of about 35 million square kilometers, of which almost two-thirds freezes over each winter. It comprises all those Oceanic areas to the south of the Antarctic convergence, where the cold northward flowing Antarctic surface water dips sharply beneath the warmer water to north."¹ Thus, Antarctic Ocean marks the southern boundary of the three world Oceans that is, Antarctic Ocean, Indian Ocean and Pacific Ocean. "Like a moat around a fortress the southern (Antarctic) Ocean encircles Antarctic and defends her secrets from the assault of human enquiry"² The cold waters of the Antarctic Ocean was one of the important factors which made the white continent and the south pole inaccessible. Not much was known about the Antarctic Ocean upto late eighteenth century. It was the voyages of Captain Cook which clearly defined the existence of the Circumpolar Ocean. Thereafter, discoveries by explorers and whalers threw light on the Antarctic Ocean and the continent of Antarctic. A turning point in scientific activity in Antarctica and the

1. Alstair Couper, ed., *The Times Atlas of the Oceans* (London, 1983), P.78

2. Frank A. Simpson, ed., *The Antarctic Today* (Sydney, 1952), P.102

Circumpolar Ocean was the International Geophysical year (1957-58) when research stations were set up and several research vessels were sent. It helped in the systematic collections of information which has shed light on the Antarctic Ocean.

EXPLORATIONS TO THE ANTARCTIC OCEAN

The Antarctic region has always been a mystery for the civilised world right from the time of Greeks and Romans. However, “the first deliberate attempt to sail in this area was made by Edmond Halley in 1700 on a vessel *Paramore*”.³ Though he touched the Antarctic (southern) convergence but could not move south of 52° 30' south due to adverse climate and impending icebergs. Next to encounter Antarctic icebergs was Jacob Roggeveen, a Dutch explorer sponsored by the Dutch East India company. Sailing south of Falkland Island, he saw scores of icebergs around 60° south latitude. This made him believe that there must be some continent further south. Between 1772 and 1775 Captain Cook undertook two great voyages to Antarctic Ocean in his vessel *Resolution*. He was accompanied by Tobias Furneaux in the *Adventure*.

They circumnavigated almost the entire Antarctic Ocean facing numerous icebergs and discovering several islands. It was Captain Cook who reported the abundance of seals and whales which brought many

3. George Deacon, *The Antarctic Circumpolar Ocean* (Cambridge, 1984) P.4

ships to the Antarctic. In 1819-21, two Russian ships *Vostok* and *Mirnyi* made a voyage around the Antarctic water under captain Theoddeus Von Bellingshausen. He discovered several islands and Bellingshausen sea is named after him. In 1840, two French ships *Astrolabe* and *Zeelee* under the command of Admiral Dumont d'Urville, discovered the continent of Antarctica by sailing through the Antarctic Ocean. The expedition led by James Clark Ross, in the ships *HMS Erebus* and *HMS Terror* in 1840-41, "made comprehensive studies of the Ocean as well as remarkable geographical discoveries, particularly of the deep embayment now known as the Ross sea."⁴

In the later part of the nineteenth century, three major scientific expeditions took place. The French vessel *Belgia* in 1897-99 made valuable physical, biological, geological and meteorological observations. The German Deep-sea expedition *Valdivia* (1898-99) found that Antarctic water has three layer structure on the basis of Temperature: Antarctic surface water, warm deep water and cold bottom water. It also found that there was low salinity of the surface water, high salinity of the warm deep water, and a slight decrease in salinity in the cold bottom water. The third expedition was of the *Southern Cross* which sailed in the Antarctic waters between 1898-1900.

4. *ibid.*, P.28

In the 20th Century, Germany sent South Polar Expedition in 1901 under Erich Von Drygalski. It was basically a scientific expedition. One of the most significant findings was the recognition by the expedition's meteorologist Wilhelm Meinardus that the west wind drift has a natural division into two parts. The southern part is a cold-water region directly influenced by Antarctic freezing and melting and the northern part is a mixed - water region in which the temperature rises more rapidly towards the north. In the transition zone the cold water sinks and mixes with the warm water. It came to be known as Meinardus line and later the polar front or Antarctic Convergence. Besides, in the early part of the twentieth century Scott made his expeditions to Antarctica.

Other important expeditions during this period were the Swedish South polar expedition *Antarctic* in 1901-03 led by Otto Nordenskjold and the two other German expeditions *Deutschland* and *meteor*. All these expeditions threw new light on the bottom relief of the Ocean and the types of flora and fauna.

Britain became the first country to start systematic expeditions to Antarctica. Systematic British expeditions to the Antarctic were began in 1925 by the *Discovery* committee, which was set-up by the British

Government in 1923 for the purpose of enhancing the Empire's economic and political positions".⁵

The ship *Discovery* which was substituted by *Discovery II* in 1929 along with *William Scoresby* made comprehensive observations for over two decades upto 1950. It furnished a mass of scientific data that has enabled the broad details of Ocean circulations to be worked out. It has also provided an unrivalled accumulation of materials for studies of the marine life of the Antarctic Ocean. Since then many countries including Germany, France, Norway, New Zealand, Australia, erstwhile USSR (now Russia) and USA have been sending systematic scientific expeditions to Antarctica and Antarctic Ocean. Some of the important research vessels are *USNS Eltanin* and *USNS Hero* of USA and *Ob* and *Lena* of erstwhile USSR. "Towards the end of the 1920's aircrafts began to play an important part in Antarctic explorations. Planes were used by Britain, USA, Australia and Norway."⁶ The first flight over the Antarctic was made on November 16, 1928 by Sir Hubert Wilkins. Since then, innumerable flights have taken place. These flights have provided significant information on glaciers, ice shelves, planktons, migration of whales etc.

INDIA'S EXPLORATIONS

"India's advent into the realm of polar science began with its first

5. V. Lebedev, *Antarctica* (Moscow, n.d.), P.32

6. *ibid.*, P.34

ever scientific expedition landing on the icy continent on January 9, 1982.”⁷ Since then, India has already sent seventeen exploration in the region and conducted several scientific experiments in the field of Oceanography, meteorology and living marine resources.

ANTARCTIC CONVERGENCE : THE NORTHERN EXTENT OF ANTARCTIC OCEAN ?

There is no unanimity regarding the northern limit of the Antarctic Ocean. “In 1945, the Royal geographical society proposed to regard latitude 66° 30’ south as the northern boundary of the southern (Antarctic) Ocean. Vallaux on the other hand recognised the line at 35° south, MacEwen at 40° south and Boucart, on the basis of bottom water Topography, at 60° south.”⁸ Herm J. de Blij advocated that the northern limit of the Antarctic Ocean is the sub-Tropical convergence lying approximately at 40° south latitude.⁹ However, one of the widely recognised view is that the borderline dividing the Antarctic waters from the water masses of the adjacent sectors of the Atlantic Ocean, Indian Ocean and Pacific Ocean is the Antarctic Convergence (see figure 1).

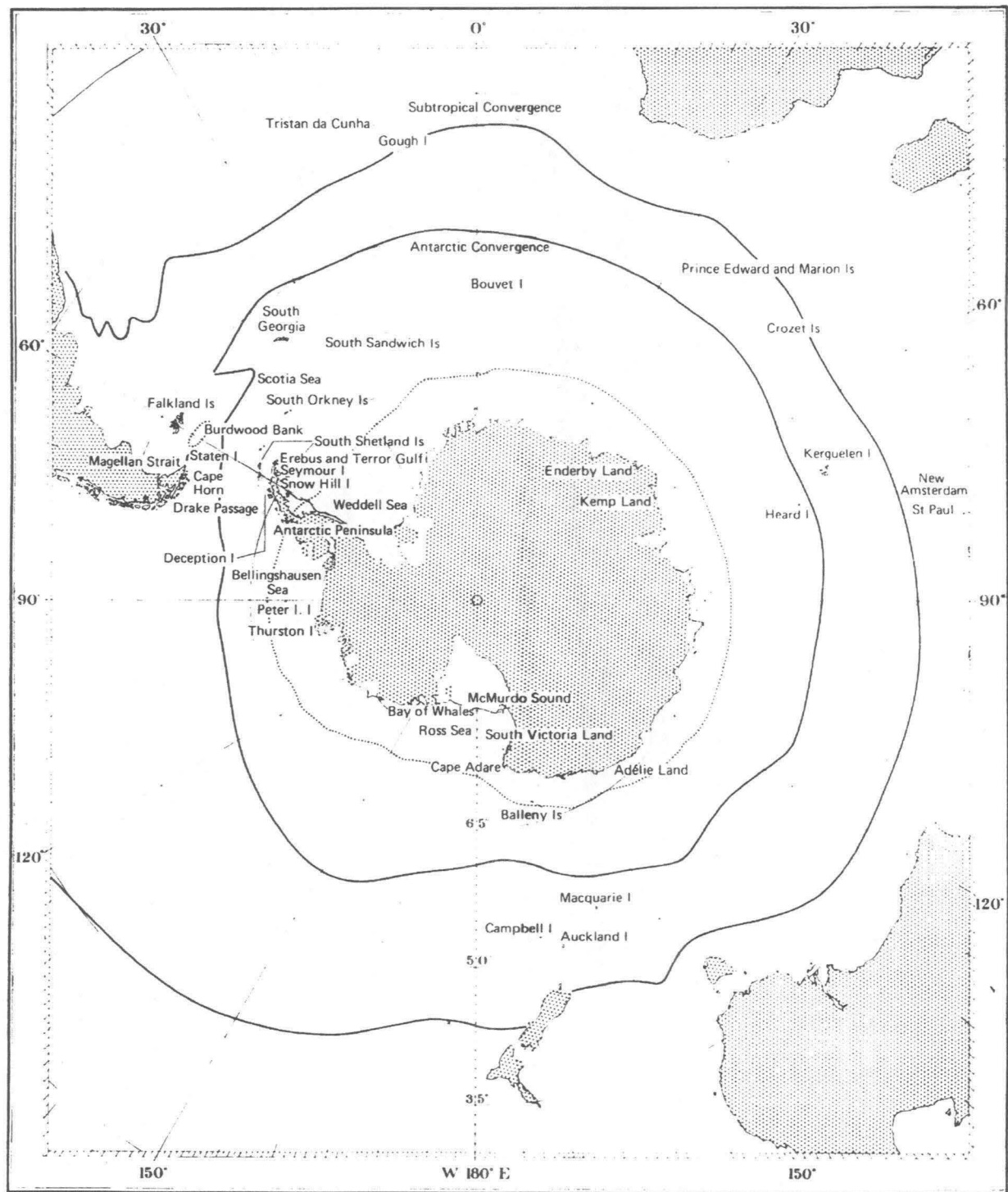
7. A. Mitra, India in Antarctica, in *Seminar* (New Delhi), Vol-448, (1996), P.32

8. Lebedev, n.8, P.132

9. Harm J. de Blij, “A Regional Geography of Antarctica and the Southern Ocean”, *University of Miami Law Review*, Vol.33, no.2, (December, 1978), P.300

Figure : 1

The Antarctic Ocean



Source: Deacon (1984), P. 2

The Antarctic convergence, also known as the Antarctic confluence, is the boundary of the Antarctic and sub-Antarctic surface waters. The Antarctic convergence is zig-zag, unbroken circle passing through all the sectors of the Antarctic region and is best determined by the rapid change in the temperature of the water. Across the convergence the temperature rises northwards from 4°C to 6°C in summer and from 1°C to 3°C in winter. This zone of convergence "varies in position from year to year and from season to season by up to 100 miles, but on the whole it is well defined and marks the limit to the northern range of many planktonic organisms, fishes and even bottom dwelling animals."¹⁰ "In the Atlantic and Indian Oceans the position of the convergence is generally 50° south and in the Pacific Ocean it is 57° south."¹¹

According to Deacon, the position of the convergence is determined by the flow of deep water. However, this proposition is not universally accepted. Sverdrup believes that the light surface water of the sub-Antarctic zone are carried south by currents set up by differences in density due to temperature and salinity, whereas Antarctic water is carried north by wind, and that the meeting of the two forms the convergence.

10. Simpson, n.5, P.118

11. Lebedev, n.8, P.133

CIRCULATION OF WATER

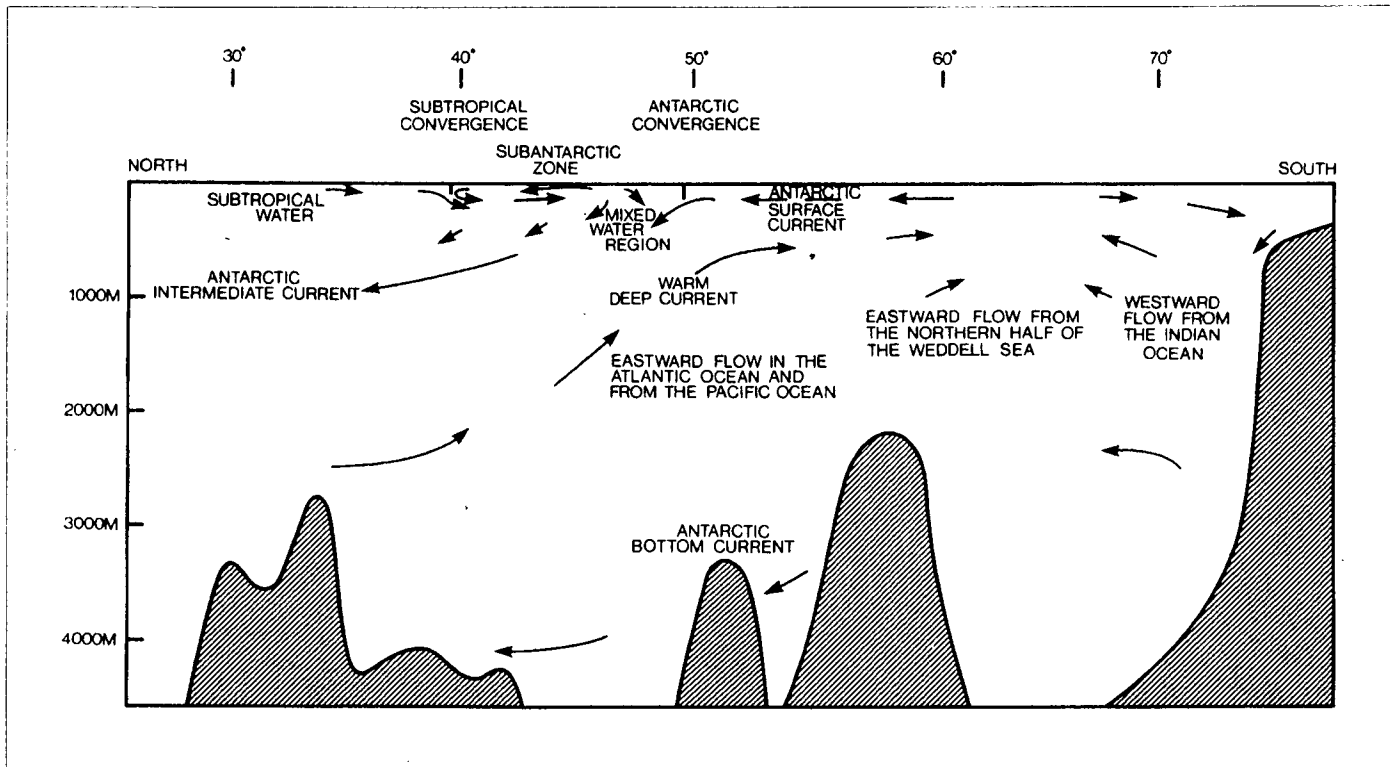
Vertically, the waters of the Antarctic Ocean has three layers. These layers are the surface waters, warm deep water and the bottom water (See figure 2).

The surface water is characterised by variable salinity and temperature with place and time. In winter it is cooled and its salinity increases as a result of ice formation. Temperature varies from near freezing point in the southern limit to about 1°C at the convergence. In summer, the temperature rises and due to the melting of the ice the salinity decreases.

The surface water is underlain by warmer, denser and more saline water layer known as warm deep water. Its temperature is always above 0°C and salinity upto 34.7 per thousand. It is found in the depth of about 400 mts to 3,500 mts and the salinity is greatest at a depth of 700-1,300 meters.

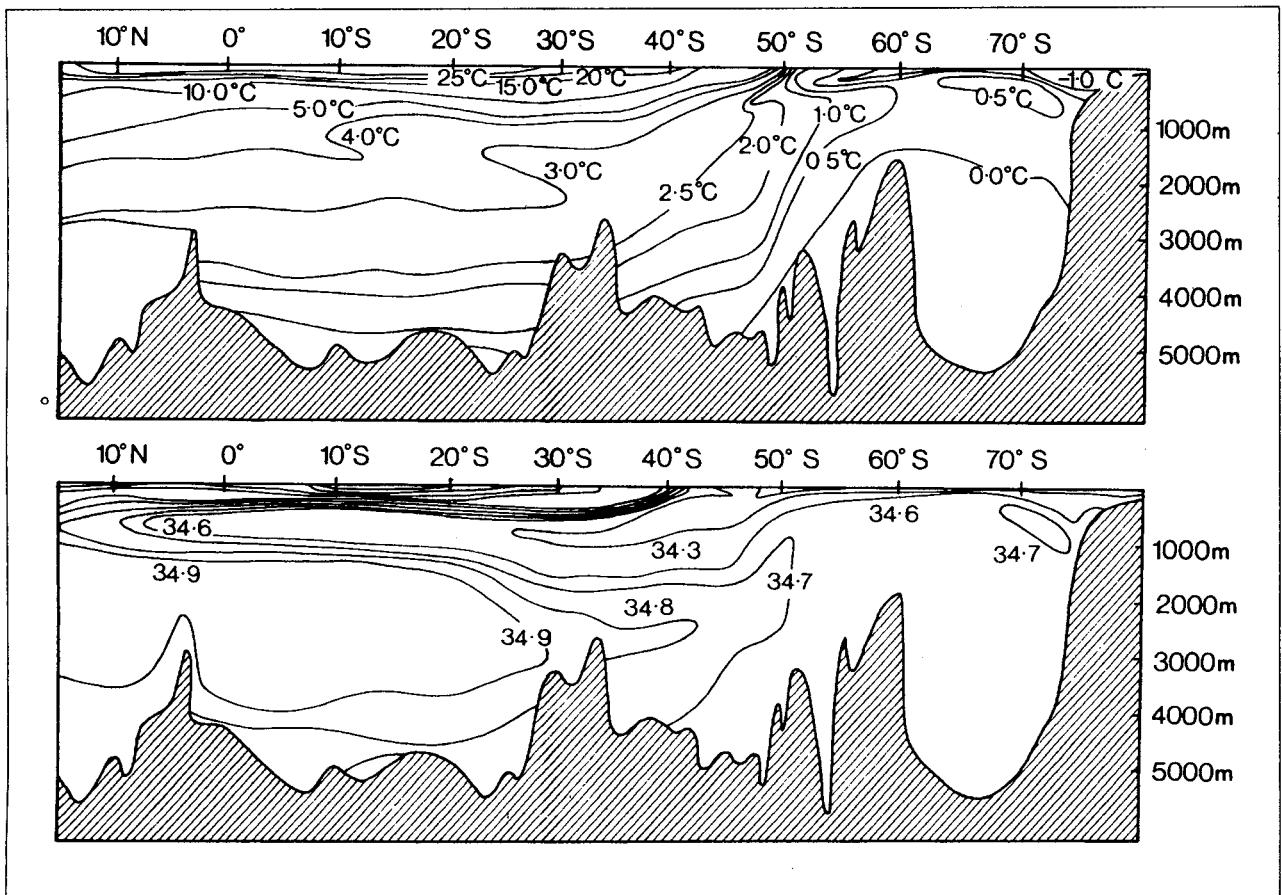
The lowest layer is the bottom water which is characterised by a temperature of around -0.4°C and salinity of 34.66 per thousand. It is believed that in specific places like the Weddell Sea and the Ross Sea, local circumstances lead to the formation of very cold high density water that sinks at the continental margin and forms the bottom water. So unlike the warm deep water it moves from south to north (See figure 3).

Figure : 2
Currents and Water masses in Antarctic Ocean



Source : Hatherton (1965), P. 122.

Figure : 3
Distribution of Temperature and Salinity
in a vertical section along 30°W



Source : Deacon (1984), P. 96

OCEAN DEPOSITS

Ocean deposits of the Antarctic Ocean was “charted by Murray and Renard in 1891,”¹² on the basis of the information collected by *HMS Challenger* between 1872 and 1876. There is a circumpolar belt of terrigenous deposits extending north to latitude 60° south from the Antarctic continent boundary. However, between approximately latitude 50° and 60° south lies a belt of Diatom ooze succeeded northwards by Globigerina ooze in intermediate depths. Red clay is also found in the abyssal plain with the terrigenous deposits. But areas close to land masses and around islands, terrigenous deposits are dominant. These terrigenous deposits are mostly in the form of glacial sediments (see figure 4).

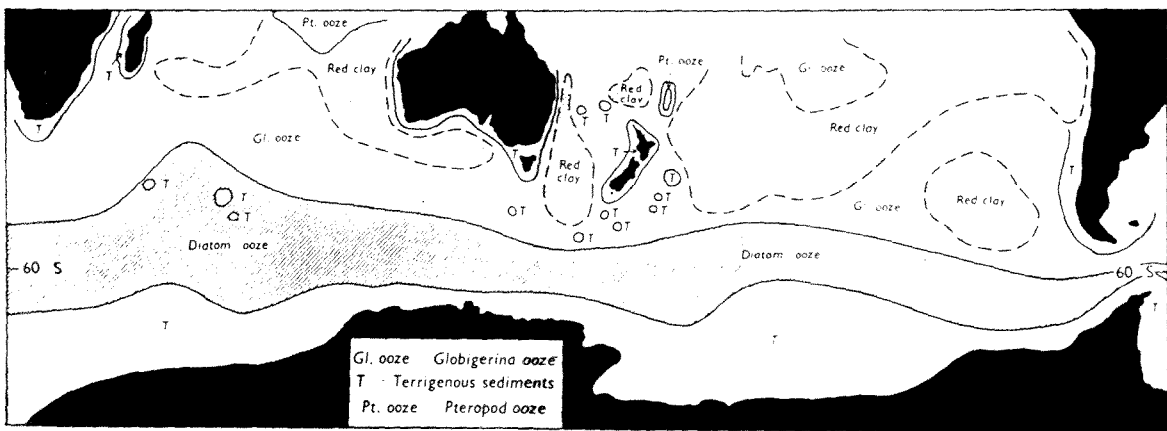
BOTTOM RELIEF

The land margins of Antarctica are fringed with a continental shelf that is everywhere narrow except in the two large embayments occupied by the Weddell and Ross Seas. “The Antarctic continental shelf is notable for the great depth at which the break in slope lies.”¹³ The

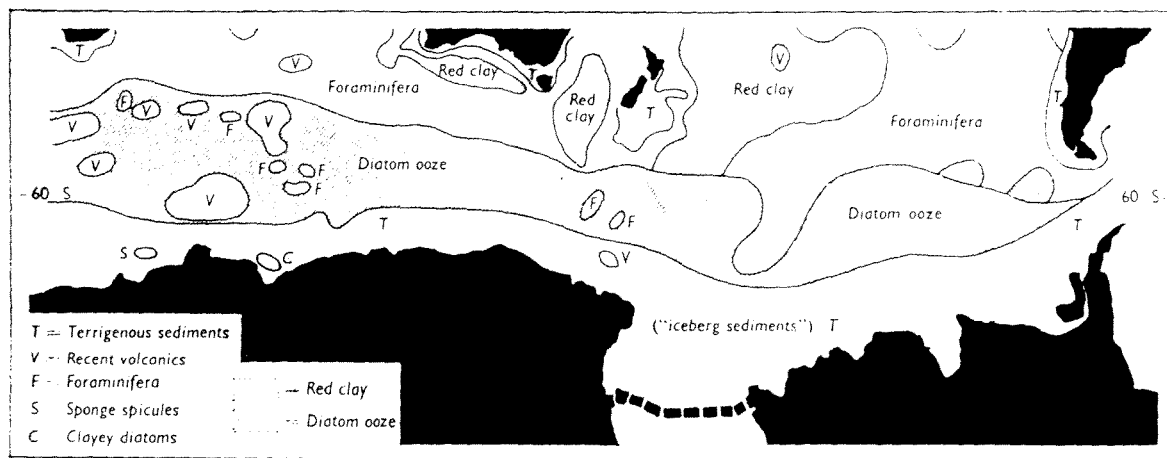
12. J.W. Brodie, “The Southern Ocean : Oceanography”, In Trevor Hatherton, ed., *Antarctica* (London, 1965), P.104

13. *ibid.*, P.110

Figure : 4
Antarctic Ocean : Sea Floor Deposits



(a)



Source : Hatherton (1965), P. 105.

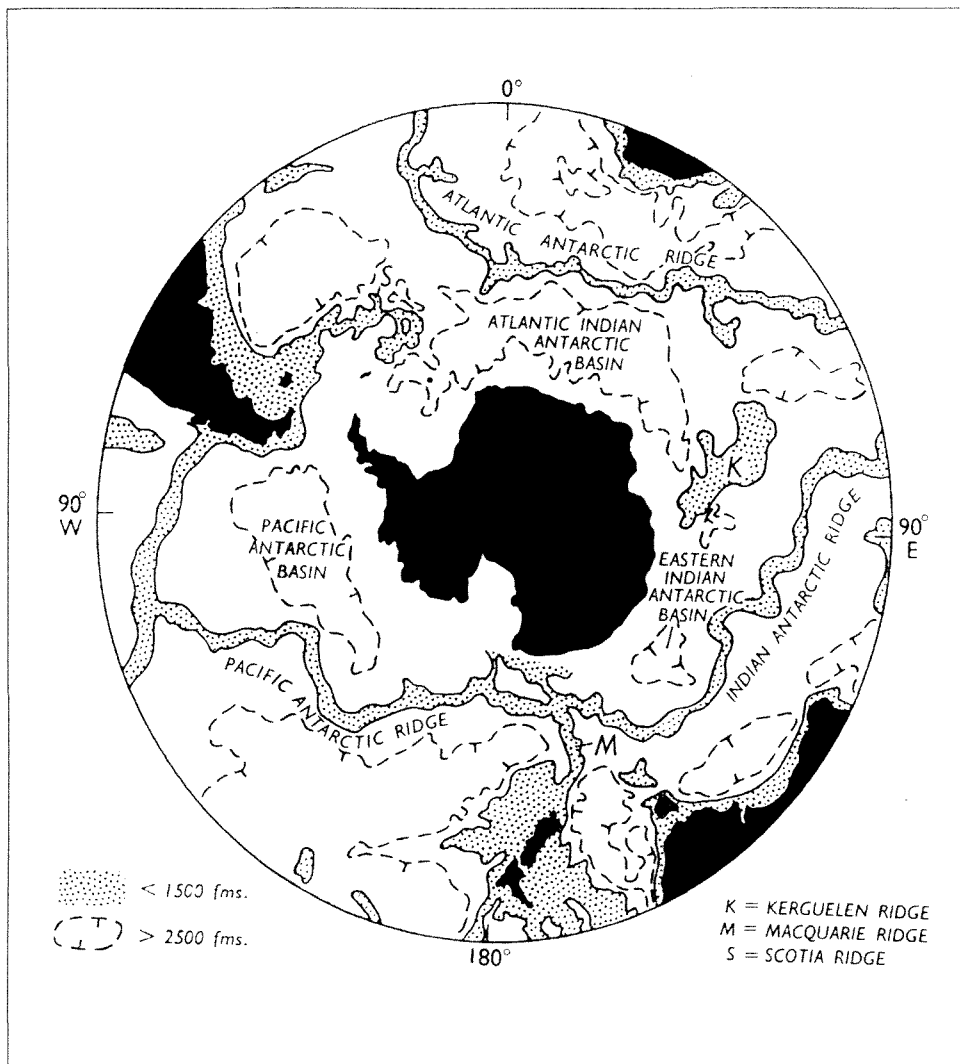
usual depth is 400-600 metres and at places like Ross Sea it is up to 800 metres.

With small exception, the continental slope descends up to a depth of at least 3000 metres all around Antarctic. Some complexities can be seen in the north end of Graham land, the Scott Island-Balleny Islands area, north and west of the Ross sea and in the Kerguelen Ridge.

Continental slope is followed by Ocean ridges and deep basins. The most extensive features are the basins. There are three prominent basins. The Pacific -Antarctic Basin extends eastwards as an elongated triangular area bordering the Antarctic continent and extending to southern Chile from near the Scott Island in latitude 68° south and longitude 180° . The other basin stretches from the Scott Island-Balleny Islands area west to the Kerguelen Ridge. It is known as the Eastern Indian-Antarctic Basin. The largest basin in the Atlantic-Indian-Antarctic Basin which encircles the remainder of the Antarctic continent to the Scotia Ridge (see Figure 5).

There are three major ridges in the Antarctic Ocean. The crests of these ridges lies in less than 3000 metres and the general trend of these ridges is circumpolar. The Atlantic-Antarctic Ridge lies in about Latitude 52° south and extends from mid-Atlantic towards Kerguelen Ridge . The Indian-Antarctic Ridge extends from the mid-Indian Ocean in latitude

Figure : 5
Antartic Ocean : Sea floor relief



Source: Hatherton (1965), P. 120.

50° south to the Balleny Islands area. Finally, the Pacific-Antarctic Ridge extends from the vicinity of Scott Island north and east towards Eastern Island. Besides, there are three north trending ridges which separate the three major basins. They are Soctia Ridge in the Atlantic sector, Kerguelen Ridge in the Indian Ocean sector and Macquaire Ridge in the Pacific sector.

ANTARCTIC ICEBERGS

Antarctic Ocean is a sea of icebergs. All through the year there are dense accumulation of hundreds of icebergs floating in the Ocean. These icebergs are mostly found up to the Antarctic convergence. Therefore, it can be considered as the northern boundary of the icebergs. However, it does not mean that the icebergs do not move further north. Some of the icebergs have been seen up to “the 30th degree in the Atlantic, and to the 40th degree and beyond in the pacific.”¹⁴

Most of these icebergs are tabular in shape and are of huge dimension. They are generally 12 to 40 metres high and 100 to 400 metres in length. Some of the tabular icebergs observed in the Antarctic

14. Lebedev, n.8, P.93

waters were from 100 to 150 kilometers long. They are extremely voluminous and submerging to the depths of hundreds of fathoms. These icebergs "exert a considerable influence on the temperature, salinity and distribution of plankton in the Antarctic Ocean."¹⁵

On the basis of origin these icebergs can be broadly divided into two types. Barrier or shelf berg and continental or glacier bergs. Shelf bergs are most numerous. They are mostly white in hue. The crests and troughs of waves cause the barrier ice to crack vertically. These cracks are enlarged and deepened by new waves and subsequently gets detached and starts floating as icebergs.

The Glacier bergs are not so white due to the presence of continental particles and fragments carried by the Glacier. Glacier bergs colve from the land ice descending from the interior of the continent. The glacier projects ice-tongues for many icebergs due to the action of the swells, waves, differential melting of the ice and thermal influence of the water. This process is facilitated by the crevasses which are often found as the Glaciers descend the shore into sea.

In this way, we find that the Antarctic convergence is the southern limit (boundary) of the Atlantic Ocean, Indian Ocean and the Pacific

15. *ibid.*, P.103

Ocean. South of the Antarctic convergence is marked by the presence of a circumpolar watermass called Antarctic Ocean. The circulation of water, combined with the nature of the Ocean deposit and the bottom relief, make this Ocean unique. This uniqueness can also be seen in its marine living resources and the mineral resources.

CHAPTER 2
RESOURCES OF THE ANTARCTIC OCEAN

CHAPTER 2

RESOURCES OF THE ANTARCTIC OCEAN

Prospects of resources have been a major cause of interest in Antarctica right from the beginning. It is a well known fact that whaling stimulated interest in the Antarctic ocean for countries like Britain and Norway. At present the resources of the Antarctic Ocean have attained greater significance because of certain events like :

- i) "Discoveries made by the *Glomar Challenger* expedition to the Ross sea in 1972-73, which first suggested that hydrocarbons might exist on the Antarctic continental shelf."¹
- ii) The above discovery was followed by the Arab oil embargo of 1973-74, which created a global oil crisis.
- iii) The new international law for the world oceans which were negotiated in the UNCLOS III. The Atlantic Treaty Consultant Parties (ATCPs) perceived it to be a "possible challenge to their lawful ability to manage and regulate development of natural resource in the Antarctic".²

1. Spivak, "Now the Energy Crisis spurs idea of seeking oil at the South Pole", Wall Street Journal. Feb 21, (1974), P.1

2. Christopher C. Joyner, "The Evolving Antarctic Minerals Regime", *Ocean Development and International Law*, Vol.2, No.2 (1988), P.75

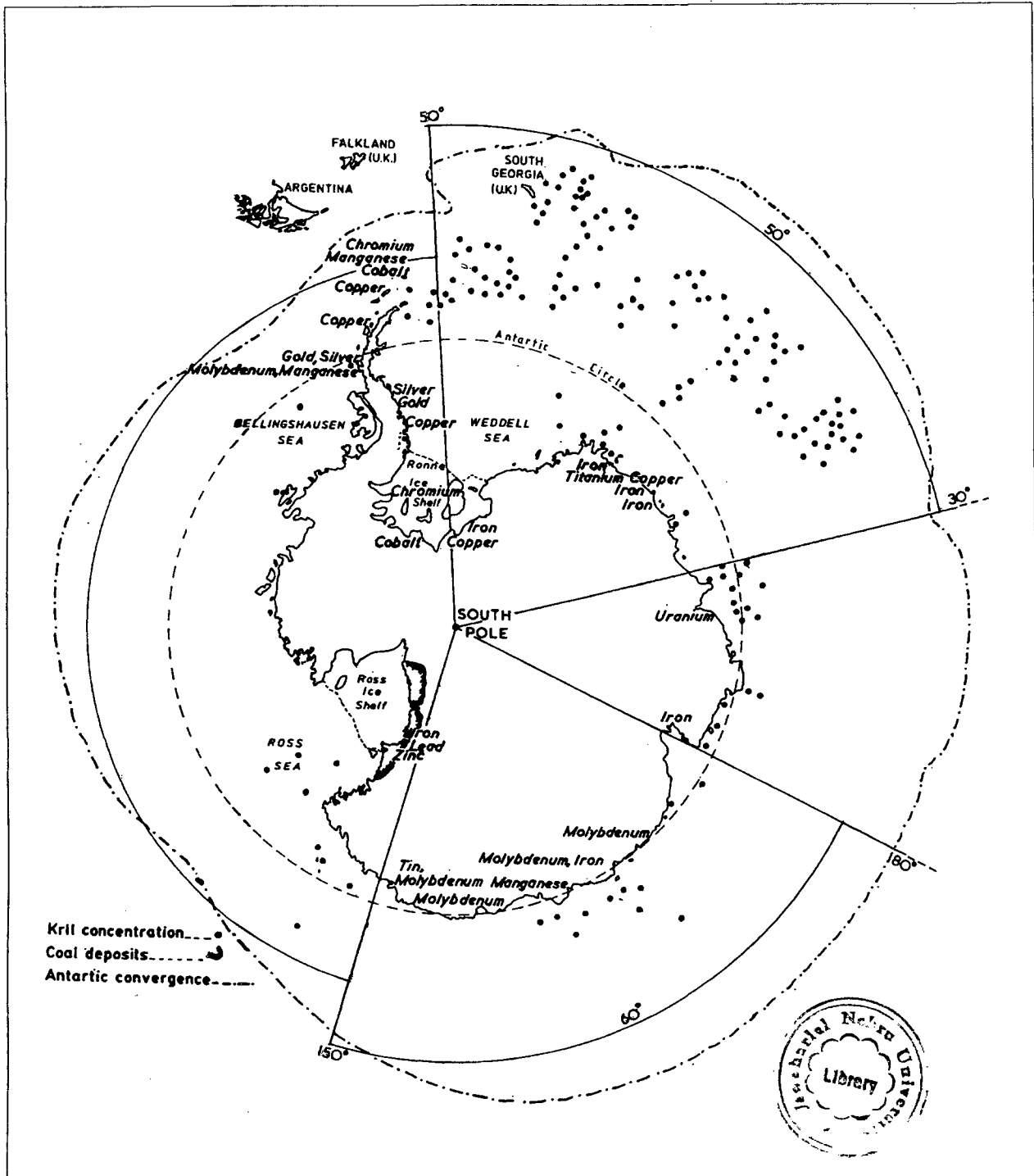
These factors, coupled with the growing perception that access to increasingly scarce products like hydrocarbons will be a significant element of power in international arena, have political, economic, scientific and environmental implications. This has hastened widespread unrest and debate such as between countries at international organizations and among Non-governmental organizations.

The most interesting aspect of all these development is that there have not yet been sufficient investigations to determine whether the region is in fact endowed with abundant natural resource. This lack of information has been further compounded by other problems like those posed by climate, distance, technological requirements and the need for environmental protection. Further, there are resources available elsewhere which can be exploited at lesser cost as compared to the Antarctic. Thus, interest shown by the countries is based on speculation and long term benefits.

The resources of Antarctic ocean can broadly be classified into the living marine resources and the non-living mineral resources (See Figure 6). Both living marine and mineral resources have been treated separately during negotiations. Therefore, despite certain similarities in the nature of negotiation both types of resource are being discussed separately in the chapter.

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Figure : 6
Antartica : Economic Resources.



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1. LIVING MARINE RESOURCE

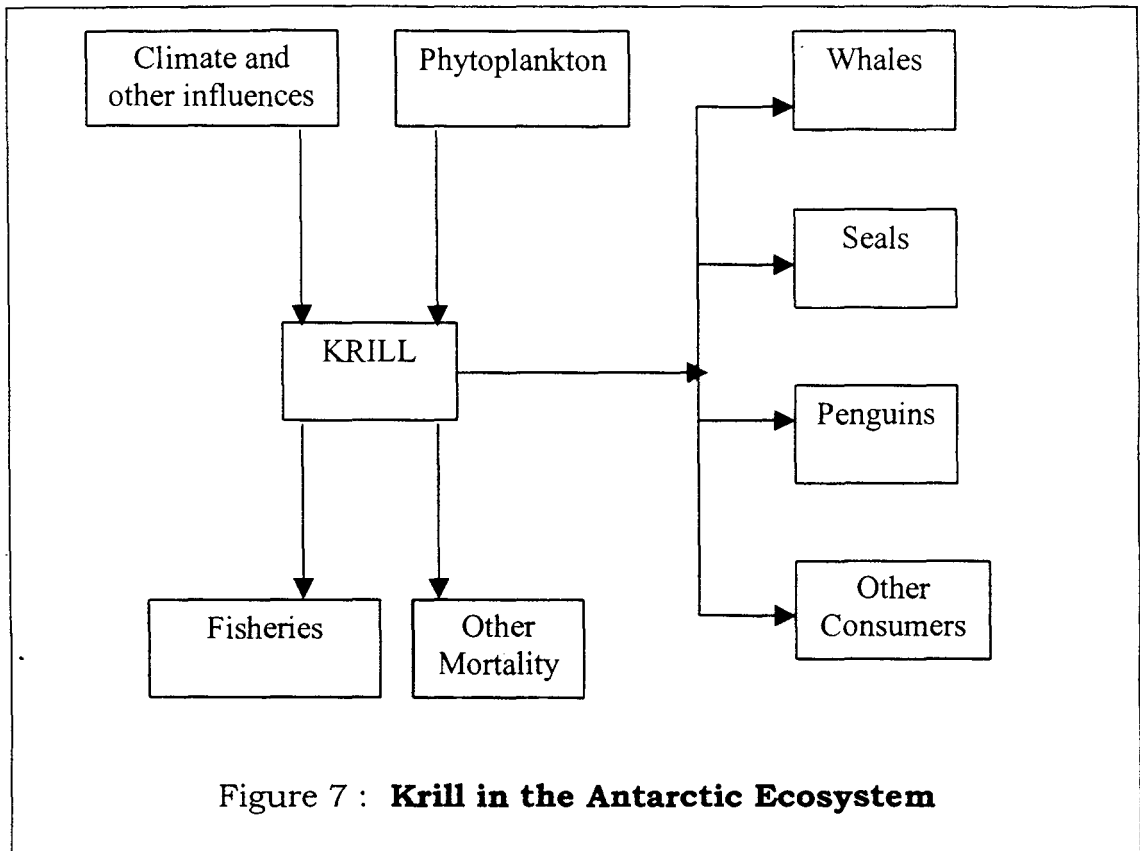
Important living marine resources of the Antarctic ocean are Krill, whales, seals, fishes etc. These resources play a very vital role in the Antarctic ecosystem. So, their prospect of exploitation has been marked by the environment conservation protests as a threat to the fragile Antarctic ecosystem. This makes it important to understand that these Marine organisms play a vital role not only as a resource potential but also as a component of the fragile Antarctic ecosystem.

Krill

Krill is the most abundant Zooplankton found in the Antarctic ocean. This tiny shrimp like crustacean is the foundation prey species for the marine ecosystem. "The two important species of Krill in the Antarctic Ocean are *Euphausia superba* and *Euphausia frigida*".³

Although Krill tends to have a circumpolar distribution but there are areas of concentration, like around Weddell Sea and Ross Sea. This variable nature of the distribution coupled with the lack of information

3. Everson, *The Living Resources of The Southern Ocean*, P.129



and harsh climate has made both stock assessment and commercial exploitation a difficult task.

Several countries have been involved in catching Krill in the Antarctic Ocean. Japan and erstwhile Soviet Union were involved in it since 1960s. Other countries including Bulgaria, Chile, Germany, Poland, China and South Korea joined them subsequently. The interest shown by these countries are mainly because Krill is a rich source of protein. The total Krill catch is around a million ton "which has been derived mainly from the Atlantic and Indian ocean sectors of the

Southern Ocean.”⁴ India is also examining the prospect of Krill fishing in the Antarctic Ocean. It has sent its research vessel and is developing reprocessing technology to start commercial production.

A major issue of debate surrounding Krill fishing is the potential total Krill catch. "In absence of an acceptable method to calculate the total amount of Krill a wide range of sustainable catch figures have been suggested.”⁵ Some of these estimates have been encouraged by the alleged surplus of Krill consequent upon the decline of the whale stock due to excessive whaling. It has been further compounded by lack of proper information, and the vital role played by Krill in the maintenance of Antarctic ecosystem.

However, with the advent of advance techniques like use of satellites this issue is likely to be settled. The only hindrance would be the political and economic interest of the countries.

Fish :

Unlike other oceans the Antarctic Ocean doesn't contain a dense stock of fish. Fish populations in the Antarctic ocean is not extensive. “Out of some 20,000 species of modern fishes, only 120, representing 29

4. Peter J. Beck, *The International Politics of Antarctica*, (London, 1988) P.214

5. Antarctic Treaty, Report of the Twelvth consultative Meeting, PP.14-15

families are found here.”⁶ of those only three species are found in abundance :-

- i. The *Nototheniidae*, a cod like species
- ii. The *Chaenichthyidae*, a so called 'ice fish' and
- iii. The *Myctopidae* or lantern fish

The dominant group is the *Nototheniidae* also known as Antarctic cod which constitutes nearly 75% of all species. The data on fish in the Antarctic Ocean is often sketchy, incomplete and speculative. However, it has been suggested that despite their quantity, they play a very significant role in the Antarctic ecosystem.

Only about twelve species of fish might possess a commercial potential. But their exploitation has been hampered by distance, climate and the apparent absence of the dense shoals. In addition, these fishes seem vulnerable to over exploitation because of the slow growth and longevity rates of fish. In areas where fishing has been carried out, it has been found that the stocks decline below the sustainable yield figure in a year or two. Important fishing countries have been Russia, Japan, Germany, Poland, and China. However, a matter of concern is: can the fishing stock be improved or even maintained? It is so because the fishing interest in this region will persist as part of the global preoccupation for alternative fishing grounds.

6. George A. Knox, "The Living Resources of the Southern Ocean; A Scientific overview in Francisco O. Vicuna, ed. *Antarctic Resources Policy*, (Cambridge, 1983) P.34

Squids

Squids or *Antarctic cephalopods* may be an important element in the marine ecosystem. They feed on Krill and are important ingredient in the diets of sperm whales, seals, penguins & certain pelagic fish. Seventy two species of Squid are found in Antarctic Ocean. Squids have attracted the interest of countries like Spain, but little is known about their population and distribution as both research and catching have proved difficult.

Birds

Antarctic Birds are not a direct resource but their role in the marine ecosystem cannot be overlooked. "Further birds guano specially of the penguins can be a rich source of protein."⁷ Approximately fifty species of birds have been found in the Antarctic ocean area. This group includes six species of penguins, six species of Albatross, eighteen species of Petrel, skuas, gulls and terns. The Primary importance of these birds in the Antarctic ecosystem is in their role as predators. They may consume as much as 115 million metric tons of krill annually. About 85% of that is consumed by the penguins alone. Besides, these birds also consume substantial amounts of squid and fish.

7. Christopher J. Joyner, *Antarctica and the Law of the Sea* (London, 1992) P.26

Seals

Six species of seals are found in the Antarctic Ocean. Of these, only four are considered to be true Antarctic seal species. These seals have life cycles associated with ice-zones. These are:

- i. The Crabeater (*Lobodon carrinophegus*)
- ii. Leopard (*Hydrurga leptomyx*)
- iii. Ross (*Ommatophoca rossi*) and
- iv. The weddell (*Leptonychotes wedelli*)

The other two species are land breeders, and are rarely found in the areas of pack ice. They inhabit the pelagic region in the lower latitudes, They are :-

- v. Antarctic fur seals (*Arctocephalus gazella*) and
- vi. Southern elephant seals (*Mirounga Leonina*)

Of the six species, crabeater seals are ecologically most significant due to their abundant population and pervasive role as predators of Krill. Sealing was an important Antarctic activity during eighteenth and nineteenth century for its fur and oil. It's dwindling population led to a halt on sealing in the early part of this century. The termination of commercial sealing in association with other factors like the Krill surplus has contributed to a remarkable increase in the seal population. In spite of the recovery of the seal stock, commercial sealing seems to be a remote possibility. It is "partly because of public opposition and partly

because of lack of demand for sealing products".⁸ Further, exploitation of seals is now being monitored by the sealing convention.

Whales

Antarctic Ocean supports a more extensive stock of whales than any part of the world ocean. Most baleen or filter feeding whales migrate between tropical breeding ground and polar feeding regions as do adult sperm whales. They spend the summer in Antarctic Ocean feeding on the rich plankton in the circumpolar water. In winter they move north to warmer seas near the equator. Here they breed in tropical water until late spring when the migratory cycle begins.

There are six species of baleen whales which are commonly found in the Antarctic Ocean. They are :

- i. The blue whale (*Balaenoptera musculus*)
- ii. The fin whale (*Balaenoptera physalus*)
- iii. The sei whale (*Balaenoptera borealis*)
- iv. The Minke whale (*Balaenoptera acutorstrata*)
- v. The Humpback whale (*Megaptera novaeangliae*) and
- vi. Southern Right whale (*Balaena glacialis*)

In addition, one species of large toothed whale , the sperm whale (*phuseter catodom*) and eleven species of smaller cetaceans including

8. Beck, n.4, P.217

Beaked (*Mesoplodon*) the Pygmy right whale (*capaera margineta*) and the Killer whale (*orcinus orca*) are also found .

Due to intensive whaling the abundant stocks of whales were decimated leaving several species in endangered condition. It is understood that due to it, the structure of the Antarctic ocean's ecosystem was severely altered in the process. Intensive whaling by Norway and Great Britain prior to world war II and by erstwhile Soviet Union and Japan since, led to progressive depletion of Blue, Fin and Sei whales in Antarctica. In reaction to this alarming situation the International Whaling Commission (IWC) was created in 1946 to protect endangered species and to set country-wise quota. However, throughout the 1950s, 1960s and 1970s scientific uncertainty over the status of various whale population, aggravated by the inability to secure member states compliance with its decisions, severely impeded any resolute conservation action by IWC.

In 1975, a moratorium amendment was proposed by Australia to the IWC. A year later it entered into force, known as the 'New Management Procedure'. This action plan called for an indefinite ban on commercial hunting of those whale populations considered to be below the threshold level necessary for "minimum sustainable yield". It meant to maintain approximately 60% of their original number. Then at the 1979 IWC meeting a 'factory ship moratorium' applicable to all whale species except the Minke whale was passed. In 1982, the IWC voted

overwhelmingly to ban all commercial whaling after 1986, a moratorium that has since remained in force. The effects of the moratorium on the whale stocks are periodically reviewed and assessed ostensibly to determine if whole population have sufficiently revived to permit hunting again. Significantly, Japan, Norway and erstwhile Soviet Union filed formal objection to the moratorium policy, which under the IWC'S procedure exempt from their obligation to be bound by the decision. The erstwhile Soviet Union and Norway subsequently stopped whaling.

However, a controversy has arisen in Antarctic whaling regarding what is popularly known as the 'Scientific whaling'. It has been proposed and practiced mainly by Japan. This obvious loophole in the moratorium argues that the taking of whales for scientific research purposes should be permitted. Although the practice has been widely criticized by environmental groups and the scientific committee of the IWC because of the infallibility of research efforts undertaken, Japan persists in taking some 300 Minke whales each year under the guise of 'Scientific research'.

In this way, we find that Antarctic Ocean always had certain resource potential as far as living marine resource are concerned. This underlined the need of a proper marine resource regime to take care of the resource possibilities.

ANTARCTIC TREATY AND ANTARCTIC LIVING MARINE RESOURCES

Antarctic Treaty was relatively silent on the subject of resources. “It was mainly because of an appreciation of the need to avoid diverse issues related to the ownership of resources.”⁹ Nevertheless, the list of consultative party responsibilities, as contained in the Article IX, did mention measures regarding the preservation and conservation of living resources in Antarctica. In this context, the first consultative meeting of 1961 had indicated the urgent need for the protection of living resource against man as well as the importance of agreed measures developed with the advice of Scientific Committee on Antarctic Research (SCAR) on protection and conservation. The next Consultative Meeting proposed a set of voluntary rules of conduct for this purpose. It cleared the way for the 1964 consultant meeting to adopt the Agreed Measures for the conservation of Antarctic Flora and Fauna.

The Agreed Measures

The Agreed Measures preamble stressed the need to protect, study and promote the rational use of the flora and fauna through the consideration of the treaty area as ‘a Special Conservation Area’. The measures were provided in fourteen articles. The first article defined the

9. *ibid.*, P.212

'Special Conservation Area' as the same area to which the Antarctic treaty is applicable, which was the area south of 60° south latitude including all ice shelves. The second paragraph preserves the high seas rights within the treaty area. The instrument was designed to protect native birds, mammals and plant life on the continent, safeguard against the introduction of non indigenous species, prevent water pollution near the coast and ice shelves and preserve the unique character of the natural ecological system. Though the Agreed Measures were adopted in 1964 but could only become effective when enacted in national legislation by the parties. However, the ratification process among the parties was very slow. By 1972 only eight parties had accepted the relevant recommendations. The Agreed Measures did not take general effect until 1983, when they became a binding obligation.

THE SEALING CONVENTION

The convention on the conservation of Antarctic seals was the next development. The agreement was finalised at a special conference held in London in 1972. However, the convention came into effect only in March 1978. The Sealing Convention established a series of safeguards, including a permissible catch, restrictions on killing and capture, the designation of protected species, closed season and seal reserves.¹⁰ These

10. Sealing Convention, articles 3-5. (See Appendix III)

provisions were to be reinforced by the development and exchange of information, with the help of SCAR, on matters regarding stocks and ecological system. Article 1 makes it clear that the convention 'applies to the seas south of 60° South latitude'. It seems that the objective is to restrict sealing rights on the high seas, which presumably includes seals on or under pack ice floating on the high seas. Since no commercial sealing operation is taking place at present this convention performs a preventive rather than regulatory role.¹¹

THE MARINE LIVING RESOURCE CONVENTION

The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was the third step in this field. CCAMLR was concluded in 1980 against a background of unregulated fishing in 1970 which led to depletion of stock and mass protests by the environment conservationists. It entered into force in 1982. This convention was applicable "not only to the region south of 60° but also extended northwards to the Antarctic convergence".¹² It aims to preserve all marine resources including fish, crustaceans (like Krill), creatures on the continental shelf (such as molluscs) and bird life. CCAMLR is based on ecosystem conservation approach. It reflects the need to maintain the

11. Beck, n.4, P.221

12. Christopher C. Joyner, "Maritime zones in the Southern Ocean : Problems concerning the correspondence of natural and legal Maritime zones", *Applied Geography*, 10, (1990) P.315

ecological balance between harvested species and dependent predators. The key to this balance is krill which performs a crucial role in Antarctic food chain.

One of the most controversial issue in the CCAMLR was regarding the demarcation of boundary for the convention. The United States, favouring a strict conservation regime based on an ecosystem standard, advocated a biological definition capable of adjustment in the height of new scientific evidence. Other delegations “preferred fixed coordinates while the major fishing states like Japan and erstwhile USSR opposed the ecosystem standard proposed by United States”.¹³ In addition, Argentina's anxiety to protect its interests in the Drake passage fostered attempts to push the boundary away from national territory. The most serious problem arose from the French Government's determination to exclude its possessions in the Kerguelen and Crozet Islands, which are located north of 60° south latitude but within the Antarctic convergence. The final negotiating text of CCAMLR incorporated a formula based upon a coordinates approach and a northward extension above 60° South capable of accommodating diverse national interests. According to article 1 of the convention, it is applicable to the Antarctic living marine resource of the area South of 60° South latitude and the Antarctic convergence which formed a part of the Antarctic marine

13. J.N. Barnes, *The emerging Antarctic Living Resources Convention*, (Washington, 1979) P.282.

ecosystem. The Antarctic convergence zone was defined by a line joining the following points along parallels of latitude and meridians of longitude: 50°S, 0°; 50°S, 30°E; 45°S, 30°E; 45°S, 80°E; 55°S, 80°E; 55°S, 150°E; 60°S, 150°E; 60°S, 50°W; 50°S, 50°W; 50°S, 0°. ¹⁴ (See Figure 8).

Thus, the northward extension means that CCAMLR's area of coverage goes beyond the area under Antarctic treaty in order to create an effective ecosystem - based conservation regime without prejudice to coastal state jurisdiction in the region.

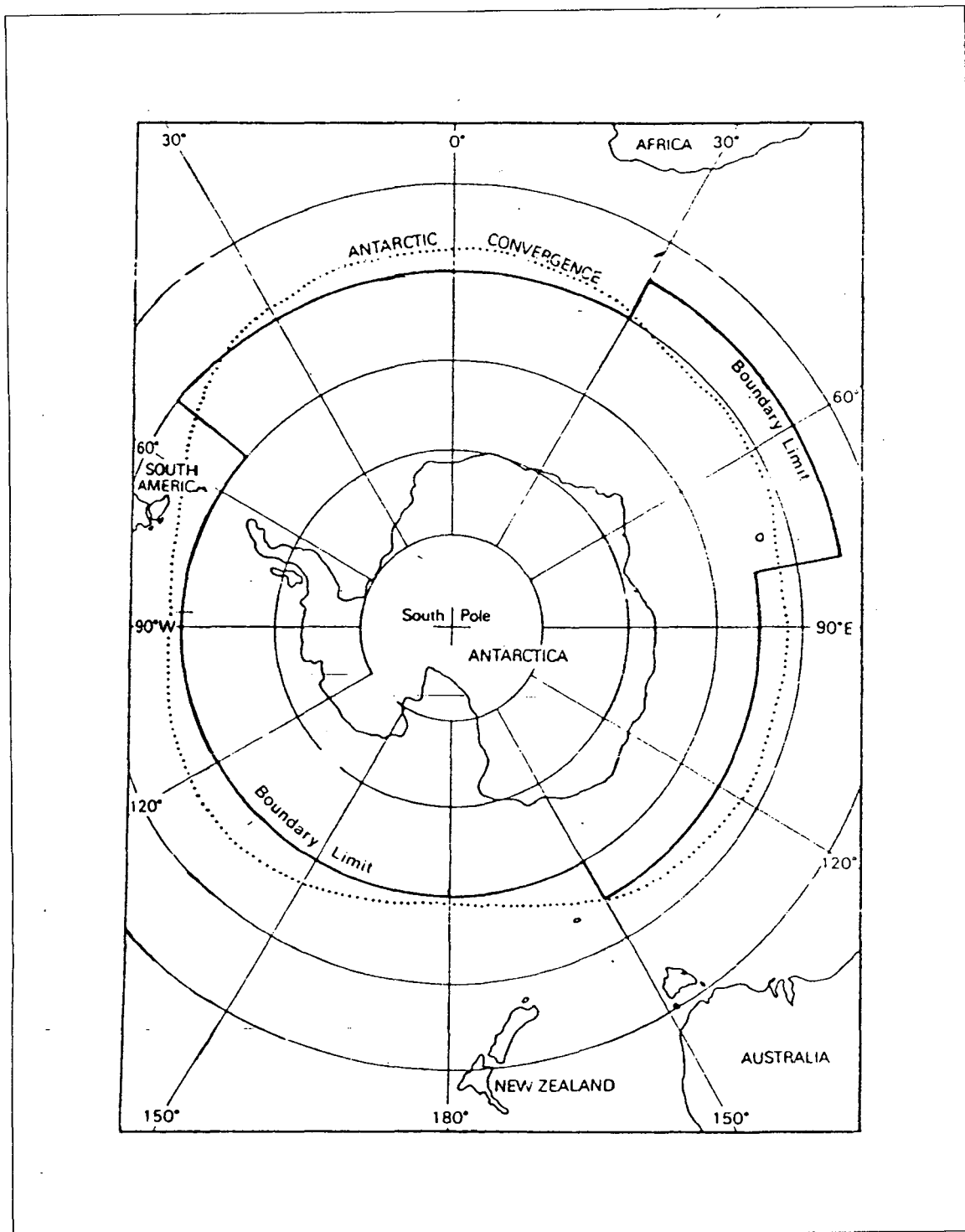
2. MINERAL RESOURCE OF ANTARCTIC OCEAN

Antarctic geological framework including its tectonic-stratigraphical correlations with other continents as a part of the former super-continent of Gondwanaland has raised the hope of mineral resources. Though at present only a trace rather than evidence of the existence of a deposit worthy and capable of exploitation has been found. "The implied links with other mineral bearing continents has also stimulated speculations regarding offshore resources, such as oil and natural gas, as well as about manganese nodules which may contain copper and nickel on the deep ocean floor". ¹⁵

14. See Appendix II

15. Beck, n.4, P.239

Figure : 8
The Area Covered by the convention on the Conservation of Antarctic Marine Living Resources



Source : Joyner (1990), P. 317.

"A realistic appreciation of the current position of mineral research in the Antarctic requires a reference to the process of mineral exploitation, which can be divided into following four stages:"¹⁶

- i. Regional Geological exploration : It involves research of an exploratory character designed to survey the geological structure of a large area for resource possibilities.
- ii. Basic Commercial exploration : Commercial exploration of the more promising structures takes place in this stage. The discovery of actual deposits provides the basis for the third stage.
- iii. Exploratory drilling : It is intended to determine the existence, quantity and quality of specific deposits.
- iv. Exploitation : Commercial exploitation occurs of deposits which are suitable also from the technological economic and other viewpoints.

In the recent times a surge of geological and geophysical research has taken place in the Antarctic, such as through aeromagnetic and seismic surveys. But the primary role of this work has been directed towards geology rather than towards the identification of mineral

16. Ergil Bergsager, "Basic conditions for the exploration and exploitation of mineral resources in Antarctica: Options and Precedents", in Vicuna, ed. Antarctic Resources Policy, PP. 169-70.

deposits. As a result, resource prospecting tends to be at the first stage of the exploitation process. However, in some areas like the Ross and the Weddell Seas, activity might be described as being on the second stage. In addition, each stage poses its own technical and fiscal demands, and in general it proves more expensive and time consuming to pass through any stage as compared to its predecessor. The "Antarctic poses its own special problems, and it has been suggested that the cost and duration of each stage will be upto five and ten times greater as compared to the other parts of the world."¹⁷

The relatively wide, shallow and accessible continental shelf in the western part of the Antarctica has been treated as a hydrocarbon prospect. It has been evidenced by American, Japanese, Norwegian, German and erstwhile Soviet works in the Amudsen - Bellingshausen, Ross and Weddell Seas areas. These studies of the continental margins have established the presence of several sedimentary basins which are an important precondition for hydrocarbons. Although further investigation is required before an informed evaluation of the resource prospects becomes possible. Till then one can neither assume that exploitable mineral exists nor assert that they do not exist. As far as oil and natural gas are concerned, it is worth stressing that no exploitable

17. E.F. Roots, "Resource Development in Polar regions : Comments on technology" in Vicuna, ed, *Antarctic Resource Policy*, P.299.

deposits have been found yet of either resources. However, a sense of optimism prevails regarding their eventual discovery, especially after the report of US Geological Survey, 1974. "This report referred to a possible yield from Antarctica of 45 billion barrels of oil and 115 trillion cubic feet of natural gas."¹⁸ But these figures nearly represent statistical estimates underlain by minimal exploration information.

However, the geological promise of Antarctic ocean regarding minerals is qualified by series of other factors, which mean that, even if deposits exist, there is no guarantee of exploitation. These factors include geographical conditions like climate, economic factors like distance from markets, lack of infrastructure, high energy, transport and personnel costs, environmental factors and technological factors. For example, "drilling platforms and oil tankers will have to cope with difficulties arising from the presence of pack ice and ice-bergs as well as from the depth of water, while the water temperatures may expose the limitation of divers in supporting such off shore operations."¹⁹

It is therefore evident that in Antarctic Ocean we can only speak in terms of speculative mineral resource. At present the value of these resource is minimal because of a variety of economic, technical environmental and other factors. Besides alternative stocks in other part of the world mean that even long terms prospects are of dubious nature.

18. Beck, n.4, P.241.

19. Fox, *Antarctica and the South Atlantic* (London, 1995), P.95.

However, there are chances that the situation might change on account of either a major resource find in the Antarctic ocean or of external pressure such as the 1973 type oil crises. In certain circumstances, the impact of international political considerations might over-ride constraining factors and result in a "political grab for control of real or metaphysical resource in Antarctica."²⁰ This policy is more likely to characterise a nation lacking its own assured supply of oil, such as Japan. All these factors have laid down a need for a Antarctic Minerals regime involving both the land mass and the watermass of the Antarctic.

TOWARDS AN ANTARCTIC MINERALS REGIME

An Antarctic mineral regime which will include the minerals of the Antarctic Ocean has been the latest international effort of the Antarctic Treaty Consultative Party (ATCP). Although the region's mineral wealth remains unknown and is a matter of speculation many ATCPs believe that a regime furnishing regulatory predictability and legal stability should be in place before the discovery of any exploitable minerals. "Six years of protracted negotiation resulted in an agreed text for the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) in June 1988. CRAMRA provided for controlled exploitation of Antarctic (including Antarctic Ocean) through an institutional framework

20. Sollie, *Jurisdictional Problems in Relation to Antarctic Mineral Resources*, PP.322-23.

regulating prospecting, exploration and exploitation of land-based and offshore mineral resources."²¹

The CRAMRA will comprise of four principal organs. They are

- i. The special meeting of all states parties : It will be a forum in which all the parties to the regime could participate. It will be the chief decision making organ in which non-consultative party members will also have some voice.
- ii. The Antarctic mineral resources commission : It will be the executive agency for deciding whether or not to open an area in the Antarctic for mineral development.
- iii. Regulatory committees : Each area will have a regulatory committee, responsible for overseeing any exploration and exploitation activities.
- iv. Scientific technical environment advisory committee : It will draft assessments and make recommendations to the commission on environmental consequences of development activities.

CRAMRA was opened for signature in November 1988 but the prospects for its eventual entry into force were severely shaken in May 1989, when the Australian government decided to withhold its signature. "Instead, the Australian government advocated the adoption of a

21. Joyner, n.12, P.316.

comprehensive environment protection convention that would transform Antarctica into a world wilderness preserve."²²

The Australian decision though motivated by various reasons, was prompted mainly by a concern that mining would be incompatible with the protection of the fragile Antarctic environment. This reassertion was triggered by the grounding of the Argentine supply ship *Bahia paraiso* off the Antarctic peninsula, episodes of oil spill in Arctic and the reports of increase in the size of ozone hole above Antarctic. Sovereignty consideration also played a role since acceptance of an international mineral agreement would serve to undermine Australian sovereignty claims in Antarctica as well as deny royalty payments.

The stand taken by Australia was supported by France. It brought into light the serious political differences among the ATCPs. It scuttled the mineral agreement for the indefinite future as unanimity among the claimant state is required for convention to be effective. Another problem for the regime is the repeated demand of the developing countries in United Nations and other international organization to declare the entire Antarctic region as a common Heritage of mankind.

22. *ibid.*

ICE AS A MINERAL RESOURCE

The icebergs in the Antarctic ocean are a valuable renewable resource considering the fact that they actually exist there and are available in such large quantities which cannot be rivalled by any other part of the world. "However, there has been no effort to cover exploitation of icebergs in the ongoing mineral regime negotiations."²³

Ice in the Antarctic ocean can be a source of fresh water. The icebergs can be towed to the areas of water shortage as in middle East, Australia or South America. But existence of a range of technological, economic, ecological and political problems makes it unlikely that the icebergs will be harvested for fresh water in the near future. These icebergs also hold immense tourist potential. Countries like New Zealand and Argentina do have tourist operation in the Antarctic Ocean.

However, before exploiting these resource potential a thorough study of its impact on the environment of this region is needed. But in the near future use of ice as a resource seems unlikely, except in the field of tourism.

It can be seen that there is unanimity among the states as far as the Conservation of Antarctic Marine Living Resources are concerned. But, there are sharp divisions on the issues of mineral resources. The basis of this difference is environmental, economic as well as political.

23. Beck, n.4, P.261

This difference is not only among the developed countries but also among the developed and the developing countries. Developing countries fear that their interests may be overlooked. Further, there are a group of countries, mostly from the developing world, who are demanding to declare the entire Antarctic region as a Common Heritage of Mankind. In addition to it, threats are also being felt regarding the 'political grab' of the region. Its chances increase in the background of the dwindling mineral resources. All these factors have added to the geostrategic significance of the region.

CHAPTER 3

**GEOSTRATEGIC SIGNIFICANCE OF
THE ANTARCTIC OCEAN**

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GEOSTRATEGIC SIGNIFICANCE OF THE ANTARCTIC OCEAN

Antarctic ocean has been a region of interest over the last 200 years. From the mid of this century to the present day the main interest in the Atlantic Ocean has been centred over the debate regarding the legal status, scientific research, environmental concern, economic potential and humanitarian factors. However, the issue which is least spoken but lurking in the background is the geostrategic value of this region.

Some of the factors which contribute in making this region geostrategically significant are :

- (i) Increasing influence of military powers like Russia, China, U.S.A., U.K. etc.
- (ii) Many modern supertankers and warships are too large to transit the Suez canal or Panama canal and thus must sail round the southern tips of Africa and South America. Two closures of Suez Canal and changing status of Panama Canal have raised questions about the availability of these waterways even to normal traffic in times of stress.

- (iii) The identification of proven and potential living resources and minerals in the Antarctic Ocean has increased the importance of the region. This has also aroused interest among several new countries regarding this region.
- (iv) The exclusion of Antarctic Ocean (Southern Ocean) from the negotiations of the third United Nations Conference on the Law of the Sea (UNCLOS III) also led to increased interest in this region. Infact, many countries first began to understand the importance of the Antarctic Ocean through this conference.
- (v) The development of blue-water navy and long range weapons of mass destruction have made the Atlantic ocean and its islands potential bases for unconventional military activities. It has posed a threat to the security of countries close to the Antarctic Ocean.
- (vi) The attainment of independence by most of the South African countries have also led to the chances of renewed claims and counter claims in the region. It may have an effect on the security of the region and the surrounding countries.
- (vii) The military preoccupation of Argentina and Chile in the region, growing military power and expanding worldview of

Brazil and increased interest of South Africa in the recent years have also made the region vulnerable.

- (viii) The continuing conflicting sovereignty claims over Falklands /Malvinas Islands, the Beagle channel dispute, the possibility of Antarctic being a nodal point for global military operations at time of protracted East - West war and the regional geostrategic imperatives of the scattered islands under extra regional governance, make this region geostrategically significant.

THE MARITIME CLAIMS IN THE ANTARCTIC REGION

The status of zones within the sea depends on the legal status of superjacent land under the international law. This makes the Antarctic Ocean unique because Antarctica is the only continent without a recognised sovereign state. There has been “seven territorial claims on the continent, but these are not recognised by any government in the international community except the claimants themselves.”¹ Even three of the claimants do not recognised the lawfulness of each other’s claim. Thus, no zones of offshore jurisdiction may be extended seawards from Antarctica.

1.Christopher C. Joyner, *Antarctica and the Laws of the Sea*, (London, 1992), P.75

The Antarctic treaty system is silent on zones of offshore jurisdiction. No mention is made of territorial seas, contiguous zones or exclusive economic zones. Even no specific attention has been given to respective jurisdictional obligations by Antarctic parties in circumpolar waters. The UNCLOS III has also done nothing to resolve these issues.

Thus, there is a need of an appropriate sovereign authority for delimiting maritime zones offshore and administering jurisdiction over activities in them. Since, maritime zones are extension in whole or in part of coastal state sovereignty under the international law of the seas, there is the need of resolving the issue of sovereignty in the continent. But we have seen that there is a part of the continent, which is claimed by three states, at the same time, a part of the continent's territory is still unclaimed. All these factors make the task of delimitation difficult. However, to get a proper insight of the problem the islands of the ocean, as well as, the claims to the continent merits discussion.

ISLANDS OF ANTARCTIC OCEAN

“A prominent geostrategic feature of the Antarctic region is the presence of several islands and island groups which are not subject to any disputed claims of sovereignty by various states.”² Some of the important islands are Heard and McDonald Islands claimed by Australia;

2. *ibid*, P.88

Kerguelen and Crozet Islands, and Amsterdam and Saint Paul Islands claimed by France; Bouvetoya Islands claimed by Norway; and Prince Edward Island claimed by South Africa.

Territorial seas and EEZs (Exclusive Economic Zones) have already been declared by Australia, France and South Africa around the islands they respectively claim. However, their claims in the Antarctic Ocean raises some legal issues under the international Law of Sea (LOS). These islands not only assume the character of distant territorial possessions but also lack indigenous population. On this basis, objections have been lodged against the notion that such “barren atolls” should be capable of generating zones offshore, especially 200 mile EEZs. Infact, Article 121, paragraph 3 of the 1982 LOS convention specifically asserts that “Rocks which cannot sustain human habitation or economic life of their own shall have no EEZs on continental shelf.”³ In the light of these doubts and reservations, it seems that the “islands of Antarctic ocean, which are bereft of indigenous populations and without a local economy, might be denied the lawful capability to support EEZ claims, largely in the grounds of political equity.”⁴

Thus, current island EEZs in the Antarctic are not fully insulated from doubts as to their legal validity, although they have not been formally articulated. While sovereign claims over these islands go

3. Law of Sea Convention, (1988), Art. 121.

4. Jon Van Dyke and Robert A. Brooks, “Uninhabited Islands: Their impact on the ownership of the Ocean’s Resources”, *Ocean Development and International Law* 12 (1983), P.280.

unchallenged by the international community, the lawful ability of these islands to generate EEZs remains open to questions in future. This challenge appears even more likely, if considerable living marine resources or deposits of mineral wealth are found within the circumference.

THE TERRITORIAL CLAIMS IN ANTARCTIC REGION

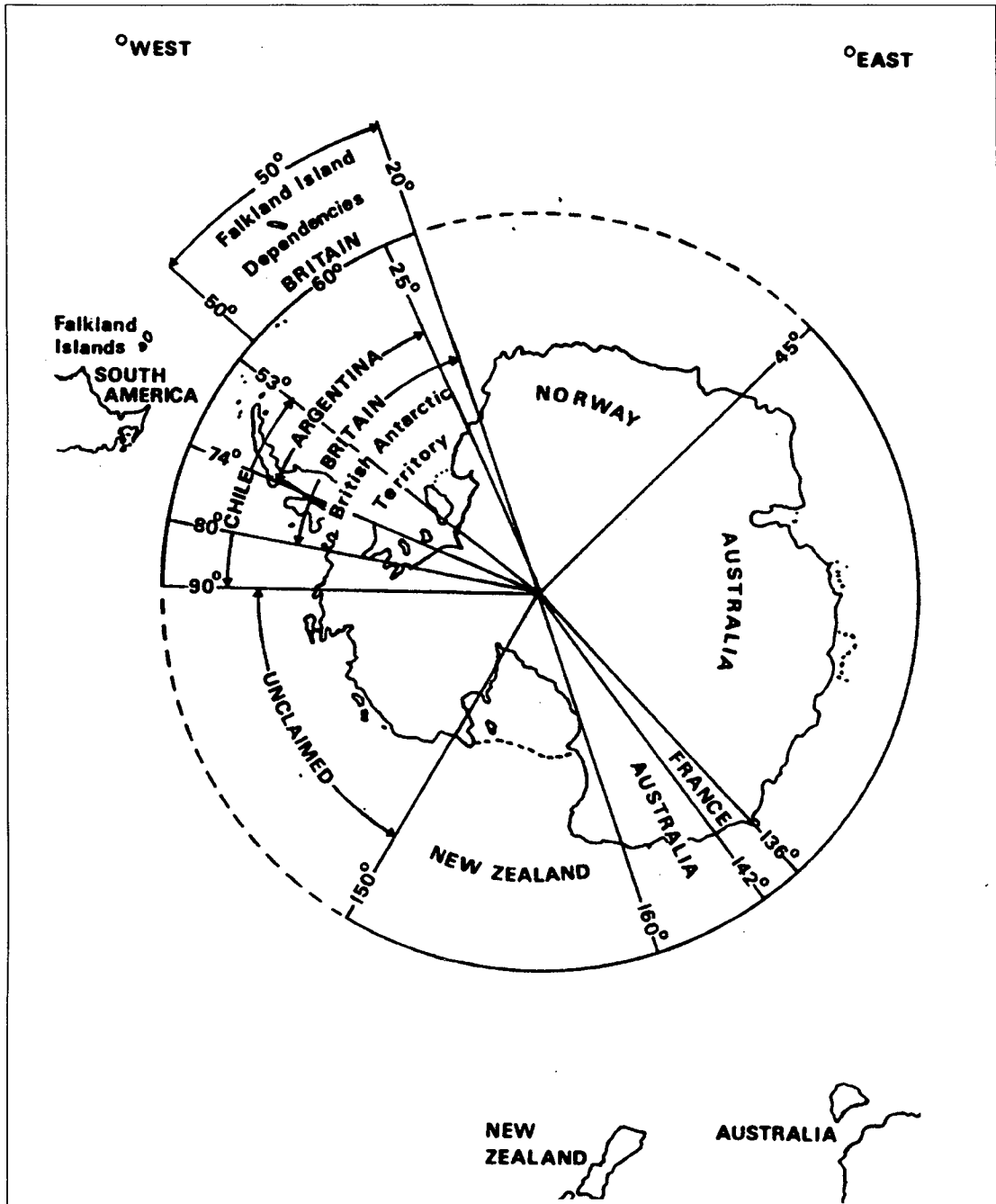
Seven states have made their claims on the territory of Antarctica. These states are Argentina, Australia, Chile, Norway, France, New Zealand and United Kingdom. The claims of all these states, except Norway, resemble pie-shaped slices. They generally follow the longitudinal coordination from the South pole upto near 60°s latitude where they terminate. Claimants states have based their claims on a combination of various legal supports including discovery, exploration, effective occupation, principles of contiguity, sector theory etc. (See Figure 9). A brief survey of the claimants states and their nature of claim is as follows:-

i) Argentina

Argentina defines 25°W - 74°W and south of 60°s as *Anta'rtida Argentina*. This includes the Antarctic continent as well as such

Figure: 9

Territorial Claims in Antarctica.



Source : Beck (1986), P. 120

islands like South Orkneys. The total extent of the claimed territory is 550,000 square miles. The Argentina sovereignty over the territory is based on deep-rooted historical rights; its geographical location; the geological continuity of its land with the Antarctic territories; the climatological influences which the continent has over the territories of Argentina; and on the basis of rights of first occupation (See Figure 10).

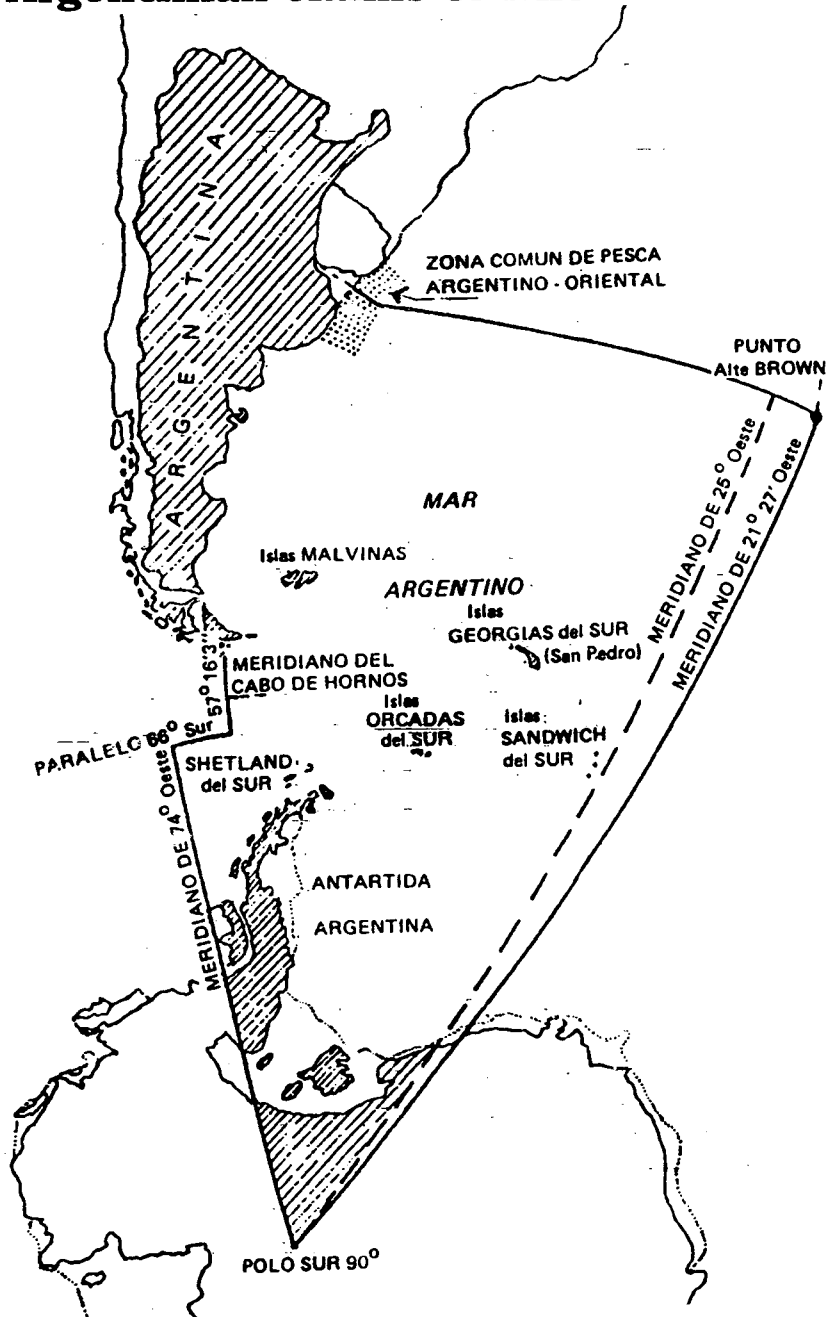
ii) Australia

Australian Antarctic Territory is claimed as 45°E - 160°E South of 60°S, excluding *Adelie Land* at 136°E - 142°E. The total area of the claimed territory is 2.4 million square miles. The Australian claim to sovereignty over the Antarctic territory is based on discovery and exploration by British and Australian navigators, and subsequent continuous occupation, administration and control.

iii) Chile

Territorio Chilen Antartico defined as 53°W – 90°W to the South Pole. The northern boundary has not been announced. The total extent of the territory is 500,000 square miles. The basis of claim is the geographical proximity; geological continuity; climatic impact and sector theory.

Figure - 10
Argentinian claims to Antarctica.



Source :- Glassner (1985), P. 332.

iv) France

France claims *Adelie Land* defined as 136°E - 142°E south of 60°s. The total area covered by it is 150,000 square miles. The basis of sovereignty over the island is historical as well as permanent occupation. *Adelie land* was discovered in 1840 by French Navigator Dumont d'Urville.

iv) New Zealand

The New Zealand's Ross Dependency is defined as 160°E - 150°W south of 60°s latitude covering an area of 175,000 square miles. New Zealand's claim is based on the territorial rights in the Ross sea area, exploration and acts of occupation.

v) Norway

The Norwegian territorial claim is between 20°W and 25°W. This region is known as Queen Maud Land. However, neither northern nor the southern limit was defined. Norway's basis of claim is the geographical exploration and work done by them in this region.

vi) United Kingdom

The British Antarctic Territory is defined as 20°W - 80°W south of 60°s latitude. It includes the mainland sector centered on Graham Land, plus the south Orkneys and south Shetlands. The total

extent of this territory is 700,000 square miles. The basis of claim in this territory is the acts of discovery and exploration and subsequent occupation.

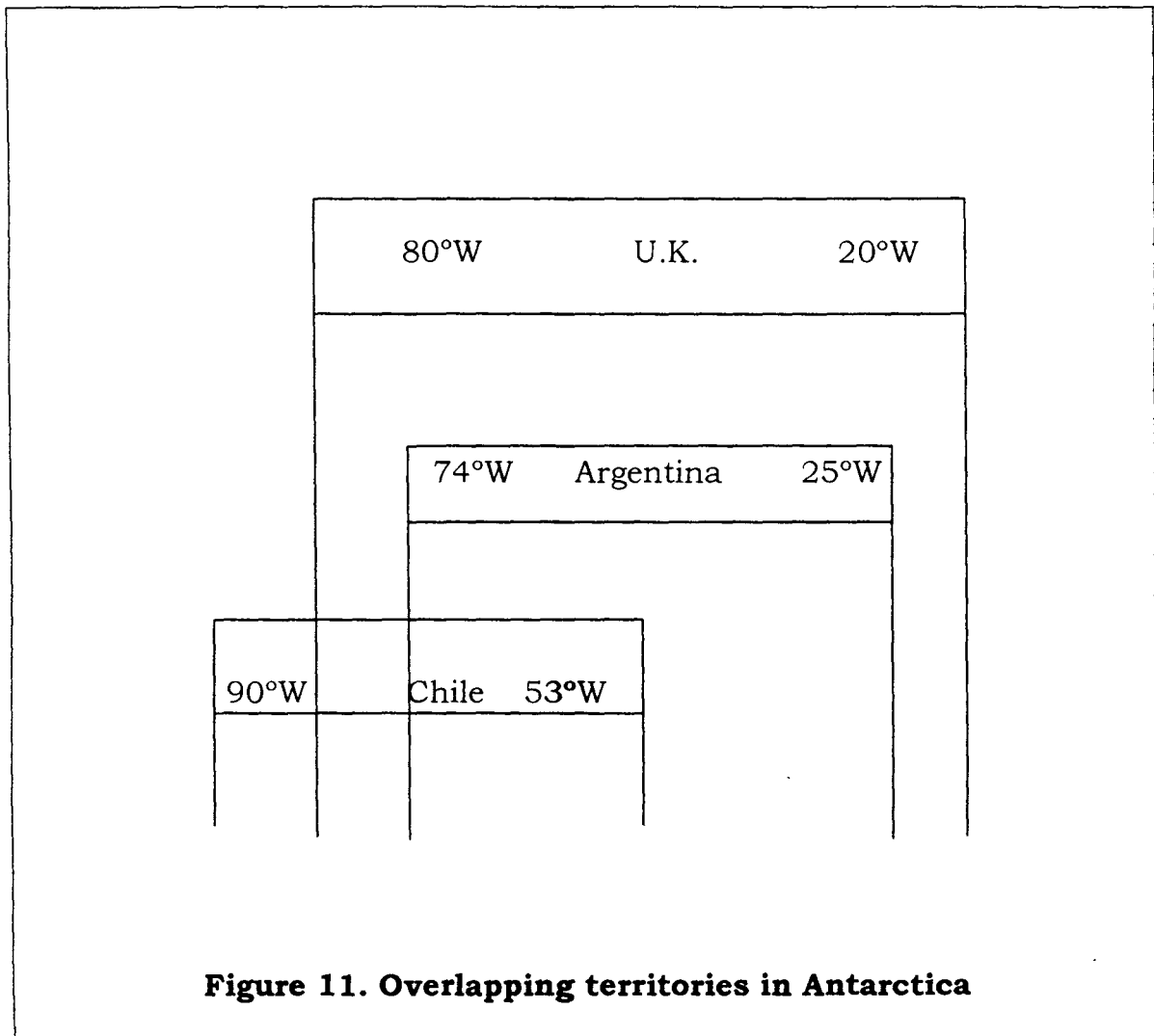
In this way, the seven states have advanced formal territorial claims to Antarctica along with the adjacent islands. However, “no claimant state to date has formally declared permanent zones of maritime jurisdiction as such, offshore their respective Antarctic claims.”⁵ These continental claims are notable for their distance from the mother countries and inability to demonstrate convincingly through permanent settlement, accomplishment of effective occupation on a credible basis. The sovereign authority of these claimant states may be regarded internationally as shaky in legal substance and symbolic in political foundation.

Occasionally, positive assertions of national sovereignty have been marked by efforts to deny the title of others. It can be seen in the overlapping nature of Argentina, British and Chilean claims. Within the Antarctic sector “lying between 20°W and 90°W, there arose an overlap of Anglo-Argentine claims for 40° (25°W - 74°W), of Anglo-Chilean claims for 27° (53°W - 80°W) and of Argentine-Chilean claims for 21° (25°W - 74°W).”⁶ This also includes the three island groups in this region – the South Orkneys, the South Shetlands and the South Sandwich groups. “Thus, only 5° of the British territory and 10° of the Chilean

5. Joyner, n.1, P.92

6. Peter J. Beck, *The International Politics of Antarctica*, (London, 1986) P.123

territory remain undisputed and the whole of Argentina territory is in dispute.”⁷



The South Shetlands, South Orkneys and South Sandwich Islands are all devoid of historically indigenous populations. They hence would be considered as “long-distance territorial possessions. Argentina and Chile claim these islands on the basis of geographical proximity whereas

7. *ibid*, P.123

the claims of Great Britain is on the basis of historical and political ties to these islands.

THE UNCLAIMED ANTARCTICA

“About one fifth of the Antarctic continent at present is not claimed by any state as sovereign territory.”⁸ This area lies between 90° and 150° West Latitude. This unclaimed sector of Antarctica represents a political anomaly which is unique in modern times. In fact, it is the largest piece of territory on earth which is unclaimed. While this sector has been primarily explored, and there has been the site of at least two scientific stations, no state has formally put forward a claim to sovereignty. Thus, it can be concluded that no coastal sovereignty exists presently in the unclaimed sector. In this way, this region falls under the condition of *terra nullius*, that is, land which is owned by no one, and perforce is available to claim by anyone.

It is therefore obvious that the continent of Antarctica is not free from claims and counterclaims. This claim of territorial sovereignty can be extended to the adjacent maritime zones. Though none of the claimant states have taken any step in this regard. The only exception is Chile

8. Joyner, n.l, P.89

which claimed its sovereignty over territorial waters in a decree issued in 1940:

“All lands, islands, islets, reefs of rocks, glaciers (pack-ice), already known, or to be discovered, and their respective territorial waters, in the sectors between longitudes 53° and 90° west, constitute the Chilean Antarctic or Chilean Antarctic Territory.”⁹

However, it is important to note that since the Antarctic Treaty entered into force, the legal status of the claims has been “frozen” into a condition where parties have agreed to disagree. Article IV of the treaty creates a situation in which claimants and nonclaimant states can participate cooperatively in the treaty arrangement without having to abandon their legal convictions on the claims issue. Thus the proclamations of offshore jurisdiction by these claimant state on the basis of the claims on the Antarctic territory would be legally suspect and open to challenge.¹⁰

ANTARCTIC OCEAN AND THE ANTARCTIC TREATY

The legal regime of the Southern Polar region is guided by the 1959 Antarctic Treaty, which came into force in 1961. It consists of 26 states

9. W.M. Bush, *Antarctica and International Law*, (1982, New York) P.311

10. See Appendix I

which comprise the Antarctic Treaty consultative Parties (ATCPs), the decision making group of the regime. Original members of the treaty were twelve which comprised of seven territorial claimants – Argentina, Australia, Chile, France, New Zealand, Norway and the U.K. and five non-claimant states – Belgium, Japan, South Africa, erstwhile USSR and USA. Since the treaty entered into force in 1961, fifteen other states have been accorded ATCP status. They are Poland in 1977, Federal Republic of Germany in 1981, Brazil in 1983, India in 1983, China and Uruguay in 1985, Italy and German Democratic Republic in 1987, Spain and Sweden in 1988, South Korea and Finland in 1989 and Ecuador, Peru and Netherlands in 1990.

“The states have been included on the basis of demonstrating interest in the Antarctic by conducting substantial scientific research activity there, such as by the establishment of a scientific station or the despatch of scientific expedition.”¹¹ The ATCPs members participate as equals in consensus decision making through biennial consultative meetings (ATCPMs), which function as the regime’s management mechanism. A second group of states, known as the Non-Consultative Parties to the Antarctic Treaty (Non-ATCP), consists of 14 states which have acceded to the treaty but perform no formal role in the regime. Non-ATCPs are merely entitled to observer status at the ATCPMs. These

11. Christopher C. Joyner, “Maritime zones in the Southern Ocean : Problems concerning the correspondence of natural and legal maritime zones”, *Applied Geography*, (1990) 10, P.313

states include Austria, Bulgaria, Canada, Columbia, Cuba, Czechoslovakia (erstwhile), Denmark, Greece, Guatemala, Hungary, North Korea, Papua New Guinea, Romania and Switzerland.

This treaty is basically concerned with the continent and is silent on the issue of offshore maritime zone sovereignty. The major threat at arriving at this regime was the issue of sovereignty over the continent. Seven states made territorial claims which was not recognised by most of the other countries of the world. In order to stabilise the position of the parties concerning the legal status of Antarctica for the duration of the treaty, a compromise was arrived at which is contained in the Article IV of the Antarctic Treaty.

It provides that no acts undertaken during the duration of the treaty should constitute a basis for asserting, supporting or denying a claim to territorial sovereignty on the continent. Neither new claims nor the enlargement of an existing claim may be asserted while the treaty remains in effect. Also, nothing contained in the treaty should be interpreted as a renunciation or denunciation or diminution by any party of previously asserted rights, claims or basis of claim to territory in Antarctic. So, the claimant states can retain their claims and the non-claimant states can continue to dispute their legitimacy. Thus, the Antarctic Treaty shelves the sovereignty problem and diminishes the possibility of disputes arising between parties.¹²

12. See Appendix I

However, one of the consequences of this compromise is that the treaty escapes the questions concerning the existence of sovereign territory in Antarctica. It remains clear that while the treaty is in force, no state will be permitted to act independently as a coastal sovereign. Thus, the zones of maritime jurisdiction will remain unresolved.

Article VI of the Antarctic Treaty, while defining the zone of application of this treaty, appreciates the fact that the high seas within the Treaty area will be guided by the customary international law regarding the high seas.

According to Article VI,

“The provision of the present Treaty shall apply south of 60° south latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or 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.”¹³

However, the treaty does not define the high seas in the region which becomes important considering the fact that, unlike any other region of the world, this region does not have a recognised territorial sovereignty.

13. The Antarctic Treaty, Article VI (For details See Appendix I)

THE COMMON HERITAGE OF MANKIND

During the past two decades, a group of developing countries have strongly advocated to declare the entire Antarctic region legally, politically and economically as a global common beyond the scope of national jurisdiction. They want the Antarctic region to be treated like the moon and the deep sea as 'the Common Heritage of Mankind' (CHM). This region is depicted as a lucrative asset towards attaining the long heralded New International Economic Order (NIEO).

"In 1983, Malaysia and Antigua and Barbuda placed the question of Antarctica on the agenda of the UN General Assembly and annual UN debates have revealed the long-range intent of many developing states to challenge the lawful authority of the Antarctic Treaty System."¹⁴ The developing countries, favouring a 'truly international' UN-administered regime, wish to make Antarctica legally immune from appropriation, exploitation or regulation by any state, group of states, or any natural, corporate or juridical person. Any revenue derived from the exploitation would be allocated for the benefit of all mankind, with preferential treatment for the poorest states.

The success of the CHM movement for the Antarctic region would directly contravene the legal justification for the ATCPs' management role

14. Peter J. Beck, "Antarctica at the United Nations, 1985; the end of consensus?" *Polar Record*, 23 (143), P.161

in the Antarctic Treaty System. Further, CHM might pose adverse repercussions for ATCPs national interests, especially their security concerns in the region. For the claimant members the security stakes are firmly grounded in belief of their sovereign passions, national pride and national prestige in Antarctic. For non-claimant ATCPs, security stakes lie mainly in preserving scientific freedom and cooperation, retaining unrestricted access to potential natural resources, and keeping the region demilitarized. If the Antarctic region were transformed into CHM regime, the national interest objectives could be compromised.

A CHM regime may also upset the stability of the present calm situation in the region and may possibly even provoke hyper-nationalism among those states already having vested interests and sovereign claim on the continent. Thus, it may undo what the Antarctic Treaty was successful in doing for the last three and half decades. Further, the notion of "common heritage" has not yet been widely accepted in the international community as a bona fide, much less binding principle of international law. This fact casts aspersions on the success of CHM regime in the Antarctic region.

In this way, we find that there are several factors which have made the Antarctic Ocean geostrategically significant. The disputed claims over territories as well as Islands in the Antarctic Region make this region geostrategically volatile. Though the Antarctic Treaty has been successful in freezing the disputes regarding the territory temporarily,

but has failed to do so for the Antarctic Ocean. All these factors have a direct bearing on India as the Indian Ocean and the Antarctic Ocean are in a continuum.

CHAPTER 4
ANTARCTIC OCEAN AND INDIA

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ANTARCTIC OCEAN AND INDIA

Antarctic Ocean along with Indian ocean separates India from the continent of Antarctica. Antarctic ocean has special significance for India because of several factors. Indian ocean circulation is affected by the circulation of the Antarctic ocean, which affects the Indian monsoon. Even the atmospheric circulation over the Antarctic Ocean has a bearing on the Indian monsoon. Further, the location of islands and considerable Indian population in some of them make this ocean important for India. In addition to it, this region is a vast reservoir of living marine resources like krill, and mineral resources which can be harnessed by India in the future.

India's interest in the Antarctic Ocean can be traced from mid-1950's. In 1956, India proposed that Antarctica be included in UN General Assembly agenda. It again raised the question of Antarctica in UN in 1958. However, when Antarctic treaty was signed in 1959, India was not included either in the drafting negotiations or in the resultant signing conference. It was the result of India's stand against signing of the treaty.

In the early 1980s India emerged as an Antarctic player that could no longer be excluded from the affairs of the region. It started with

Indian first expedition to the Antarctic continent in December 1981. This expedition, popularly known as operation *Gangotari I*, was headed by Dr. S.Z Qasim. It reached the Antarctic continent on January, 1982. They established an unmanaged weather station at *Dakshin Gangotari* in the Norwegian sector during this expedition. *Dakshin Gangotari* was later converted into a permanent scientific station in 1983-84. The December 1981 expedition was the first to be sent by any country outside the treaty framework. "In fact, India was the first country to send an expedition to the Antarctic region without having a historical presence there."¹ All these factors made the inclusion of India in the Antarctic Treaty System inevitable. India acceded to the Antarctic Treaty on August 19, 1983 and gained the consultative status in the following month.

Thus, India's role as an important player in the affairs of the Antarctic region was recognized. Since then, India has been actively involved in the affairs of the Antarctic region. It has sent Antarctic expedition almost every year for scientific research and has established a permanent station in the landmass of the continent known as *Maitri*. In recognition of her role, India has been elected the chairman of the Commission for Conservation of Antarctic Marine Living Resources (CCAMLR) for two years in 1998.

1. R.C. Sharma and P.C. Sinha, *India's Ocean Policy*, (1994, New Delhi), P.187

INDIA'S INTEREST IN THE ANTARCTIC OCEAN

India's active involvement in the Antarctic ocean, specially in the last two decades, merits a thorough examination of India's interest in the region. India's interest in the Antarctic ocean can be broadly grouped under following heads:-

- (i) Geographical scientific factors
- (ii) Security apprehensions and Geostrategic concerns
- (iii) Access to Natural Resources
- (iv) Enhancement of National Prestige

A detailed discussion on each of these factors is as follows:-

i) Geographic Scientific factors

Antarctica and India are believed to be the part of Gondwanaland which was linked together 200 million years ago. So the Geological research in the Antarctic region may yield findings with important geophysical relevance for the Indian subcontinent. Further, as an Indian Ocean littoral state, India stands to benefit substantially from gathering scientific information and participating in opportunities for Antarctic research. For example, the Antarctic Ocean circulation, and atmospheric and ocean chemistry are believed to have an impact on the Indian Monsoons. According to Dr. S.Z. Qasim:

Unlike Pacific and Antarctic oceans which communicate with both the Arctic in the North and Antarctic in the south, as these are in general terminology "open

oceans”, Indian ocean has its Northern boundaries closed by landmass. Thus, it only communicates with the Antarctic ocean in the south from which it derives most of the fertility and energy on which the economy of almost all the Indian ocean countries is dependent².

In addition to it, India’s involvement in the scientific research is reinforced by international challenge. India’s expertise in this area has made India a major technological power in the field of oceanography.

ii) Security apprehensions and Geostrategic concerns

India’s location exposes her security to any destabilising activity in the Antarctic ocean. Militarization of the region will have a direct bearing on India’s security. Even if there is a conflict in the region not involving India, there are chances of spill-over-effect which pose a threat. Further, any no-war military activity like nuclear test, dumping of radioactive waste or military exercise may have an impact on the security as well as the environment of the Indian subcontinent.

iii) Access to Natural Resources

Antarctica as well as the Antarctic ocean is known for its natural resources, both living and non-living and both proven and potential. The Antarctic Ocean is abundant in its living resources. Whales, seals, fish and birds are found in plentiful quantities. However, most important living marine resource is krill. It is known for its potential as an

2. S.Z. Qasim, “Opening Address” Report of the 12th Consultative Meeting of the Antarctic Treaty, Canberra, 13-17 September, 1983, Department of Foreign Affairs, Canberra, 1984, P.74

exploitable food source for human consumption. For India, krill assumes significance because it can meet the national protein requirement as it is a very rich source of protein. Further, it can be a nutritious supplement to feed the rising population and help in avoiding the projected food crisis. "India has also acquired an oceanographic research vessel *Sagar Sampada* for the exploration of krill resources and will soon join the increasing number of krill hunters in the frozen Antarctic waters. Some experiments have already started in Cochin for processing krill."³

However, India has two difficulties in this field. Firstly, India does not have a proper krilling technology and the knowhow to process the krill. Secondly, krill consumption is not very popular in India.⁴

Antarctic Ocean is also believed to be a huge store of hydrocarbons, both petroleum and natural gas. However, no significant deposit of petroleum or hydrocarbons has been discovered yet. For India where oil import parts away with a major portion of her treasury, getting a share of the potential hydrocarbon in the Antarctic ocean is of great importance. But there are hindrances in its exploitation like harsh environmental conditions, restricted working session, huge costs of operation, environmental impact of exploitation etc. Besides, Antarctic Ocean is also believed to be a source of polymetallic nodules, gold, copper, tin etc. which can be exploited by India. However, India needs to

3. Free Press Journal, (Bombay, December 1983), P.5

4. Y.S. Bhanduria, "The Antarctic Treaty and its legal implications", Indian Journal of International Law, 23 (1983), P.575

develop appropriate and cost effective technology for it. In this regard, India's joining of Antarctic treaty is significant because it gives her an opportunity to participate in the negotiations of any mineral regime for Antarctica. It will ensure that any regime that is established is in lines with the national interests and objectives pursued by India.

iv) Enhancement of National Prestige

India is the second most populous country of the world. She is also a leading member of the developing world and the Non-Aligned movement. India is also all set to emerge as an industrialised country and is being projected as an emerging regional superpower. "Against this background, the ability to launch and successfully maintain an Antarctic program catapulted India into a select group of world's states."⁵

India has already exhibited her scientific capabilities by establishing a permanent base-station in the continent and by conducting several scientific experiments.

INDIA AND THE ANTARCTIC TREATY

In order to realise India's scientific, political and economic objectives in the Antarctic region, India had two policy options. "One was

5. Christopher C. Joyner, Antarctica and the Indian Ocean States, Ocean Development and international law, Vol.21, (1988) P.58.

to challenge the existing Antarctic treaty and the system derived therefrom, and work for its replacement by some other form of regime. The alternative was to join the treaty, enter the consultative group and play the game according to the rules of the treaty, as an 'insider'.⁶

The first option was impractical and could have led to conflict and discord. India considered it "unrealistic and counter productive to think of a new regime in the present situation. Any attempt to undermine the Antarctic treaty system could lead to international discord and instability as well as the revival of conflicting territorial and other claims. If countries were to act outside a recognized legal framework, co-operative relations in the area might breakdown, seriously jeopardising the demilitarised status of the continent, hampering scientific investigation and adversely affecting the rational management of the resources of the region."⁷ Moreover, India's scientific and economic interests could be achieved only when Antarctica remains peaceful, and open to all.

Considering all these factors, India opted for the second option and acceded to Antarctic Treaty in August 1983, after the third expedition had returned to India in March that year. This was a remarkable diplomatic achievement as it came India's way in just three years, from only three expeditions : 1980 - 1983. The achievement was

6. Sanjay Chaturvedi, *Dawning of Antarctica : A Geographical Analysis*, (New Delhi, 1990), P.167

7. "India", in Secretary General's Report : Views of States, vol.2, *Supra*, note 39, P.87

made possible by India's scientists who could prove that they has carried out "substantial scientific activity", a primary requirement for membership in Antarctic treaty system.⁸

India's decision to join Antarctic Treaty System proved to be a step in the right direction. Antarctic Treaty can be credited for sustaining peaceful international cooperation in the region. The Antarctic Treaty has attained this objective in a three pronged manner:⁹

- i) Parties have refrained from militarizing the continent. This has contributed to the general security oriented goal of dedicating the Antarctic to peaceful proposes only . It has also prevented any measures of a military nature.
- ii) The treaty provides for a nuclear – free zone and members have complied with it. It bans nuclear explosion as well as dumping of nuclear waste.
- iii) It also provide for the members to conduct unannounced, on site inspection of other states' stations, bases and research facilities.

Thus, the Antarctic Treaty not only restrains from militarisation but also provides for peaceful cooperation in the Antarctic region. India is a strong advocate of peaceful management of the regions and therefore, strongly supports the Antarctic Treaty system.

8. The Antarctic Treaty, Article IX (1)

9. Joyner, n.5, PP.63,64

However, "India joined the Treaty system with clear policy declarations : that she does not recognize the existing claims on Antarctic, and will project and further the Third world views in the Antarctic Treaty system along with its own."¹⁰ India believes that the Antarctic Treaty system "needs to evolve further and take into account all legitimate concerns. India does not, however, believe that the existing system should be drastically altered or overturned."¹¹

INDIA AND THE CONVENTION ON THE CONSERVATION OF ANTARCTIC MARINE LIVING RESOURCES (CCAMLR)

In order to be able to have an effective participation in the management of the Antarctic marine living resources and the regulation of their development as commercially viable resource, India acceded to the CCAMLR on the 17th July 1985. In less than a year, it gained admission to it on 29th June, 1986, as a full member of the commission the main decision making body where each of the full member of the CCAMLR has a seat. Indian expeditions have been conducting a series of experiments to assess the standing marine living resources, especially the krills, from a commercial points of view. India's role in this field is also recognized by the other member states. It is evident from the fact

10. Chaturvedi, n. 6, P.168

11. "India", Secretary General's Report. Views of States, Vol 2, *Supra*, note 39, P.89

that India has been elected the Chairman for two years of the CCAMLR in 1998.

India's involvement in the Antarctic Ocean has also invited criticism from many corners. One of the major question is the utility of carrying such an expensive project by a country which has one of the lowest per capital income. Critics claim that India should spend more on the human and economic development rather than on any speculative programme. They question the utility of maintaining a permanent base in Antarctica and its ability in helping any mineral extraction in the region. "Suspicion is also in air about the gradual death of India's initial elation towards undertaking major scientific research in Antarctica."¹²

However, considering the fact that in the age of rapid technology transformation and fast communication, India cannot completely withdraw itself from the management of Antarctic Ocean. The mineral resources of Antarctic Ocean, if found in future, assumes significance in the background of the fast dwindling resources. Further, Antarctic Ocean assumes geostrategic significance for India as the Indian Ocean and the Antarctic Ocean are in continuum. Thus, India's Antarctic Ocean policy should not be seen in isolation but as an extension of India's Indian Ocean policy.

12. Sharma and Sinha, n. 1, P. 189

CONCLUSION

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Antarctic Ocean is a unique watermass. It is a circumpolar ocean and has a distinguished water circulation. The living organisms in this region are different from the other regions. This region is still more or less untouched by the human influence. Its pristine nature has always lured the scientific community. At the same time, with the advancement of technologies of warfare and blue-water navy this region has become vulnerable. Since, this region is the only part of the Earth which is unclaimed and has prospects of vast reservoir of dwindling resources, its geostrategic significance cannot be undermined.

The resources of the Antarctic Ocean can be broadly divided into the marine living resources and the mineral resources. Marine living resources like whales and seals were traditionally hunted from the region. However, their dwindling population and its impact on the fragile Antarctic ecosystem led to the widespread demand of banning their exploitation. This led to the conventions like International Whaling Convention and Sealing Convention in which selected hunting is allowed. Recently, the focus has shifted to krill fishing in the Antarctic Ocean.

Krill fishing has started in a large scale in the region. Most of the countries catching krills are developed countries. There are chances of overexploitation of krill with increased krilling operations. This threat becomes more real in absence of any reliable krill estimates in the

Antarctic Ocean. Depletion of krill in this region will have a significant impact on its fragile ecosystem, since, krills perform crucial role in the food chain of Antarctic ecosystem.

All these factors led to widespread protests by the environmental conservationists. It was under this background that the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was concluded in 1980. This convention is based on conservation approach. It tries to maintain an ecological balance between harvested species and dependent predators.

The mineral resources of Antarctica are mostly speculative as no economically exploitable reserves have been found yet. There are several geographical, economic as well as technological problems in mineral extraction in the region. However, dwindling resources in the mainland and increased demand for the resources, might lead to a 'political grab' for the control of real or metaphysical resources. Therefore, a need was felt for a mineral regime to control and regulate the mineral resource exploitation of the region. Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) was proposed to regulate prospecting, exploration and exploitation of land and marine resources. This convention could not be implemented as Australia refused to sign it. Australia's refusal was mainly because of environmental and political factors. Australia was supported by France and sharp political differences among the ATCPs emerged. There is another group of

developing countries which have opposed such convention right from the beginning and demand this region to be declared as the Common Heritage of Mankind.

Apart from resources, Antarctic Ocean becomes geostrategically significant due to a number of factors. These factors include the increasing military presence in the region; use of Antarctic Ocean as a waterway for the large ships and tankers; development of blue-water navy and long range weapons of mass destruction; attainment of independence of several south African countries; growing military preoccupation of several South American countries like Chile, Argentina and Brazil; and conflicting sovereignty claims over some Islands and territories.

This region also becomes geostrategically volatile as there is no legal maritime jurisdiction of any sovereign state. It is because there is no recognised sovereign state in Antarctic. Thus, there are no offshore jurisdiction.

The Antarctic Treaty tries to avoid any territorial conflict by freezing any claims over the Antarctic continent. But, it is silent over the issue of offshore maritime zone sovereignty.

Article VI of the Antarctic Treaty makes it explicit that the high seas within the Treaty area will be guided by the customary international law regarding the high seas. But the treaty does not define the high seas

in the region which becomes significant in the background of absence of recognised territorial sovereignty.

The only basis of territorial claim in the Antarctic Ocean can be the Islands. Most of the islands in this Ocean are free from disputes regarding overlapping claims. These islands can become the basis of demarcation of territorial seas and Exclusive Economic Zones (EEZs). Australia, France and Spain have already done it around the islands claimed by them. However, these claims are susceptible to dispute as they are quite far from the mother country and most of them are deprived of any indigenous population. The chances of dispute increase if valuable minerals or living marine resources are found in this ocean.

Another basis of dispute in the region is the demand of some of the developing countries to declare the region as the Common Heritage of Mankind (CHM). A CHM regime may not be accepted by the claimant states. They may feel that their national interest could be compromised as the region has the potential of vast natural resources. A CHM regime may also upset the stability of the region as it may evoke hyper-nationalism among the member states. Thus, this regime is not viable for the region.

In this background, it becomes important to know India's stand and her geostrategic interests and threats in the Antarctic Ocean. India's interest in the Antarctic Ocean can be traced back to mid 1950s, when India raised this issue in the UN General Assembly in 1956. India's

concern in the Antarctic Ocean are due to geographical scientific factors, security apprehensions as well as access to the natural resources.

India's stand on the Antarctic Treaty has changed over the time. Earlier India was opposed to the signing of the treaty. However, she became the first country outside the treaty framework to send an expedition to Antarctica. By early 80s, India became a major player that could not be ignored. India was granted the membership of the Antarctic Treaty in 1983.

India opted to be a party of the Antarctic Treaty System(ATS) because she realised that it would best serve her scientific and economic interests. Further, considering the geostrategic location of the Antarctic Ocean, India wanted a say in any activity in the region.

India acknowledges the success of the Antarctic Treaty System in maintaining peace in the region and is against any treaty replacing the existing one. A new treaty may threaten the peace in this region, that has been achieved through the existing treaty. However, India does not recognise any country's claim of sovereignty over the territory.

India also joined the CCAMLR as it wanted an effective participation in the management of the Antarctic marine living resources. It is an active member of CCAMLR and has been elected the chairperson of CCAMLR for two years in 1998.

In this way, we find that India is very much aware of the geostrategic importance of the Antarctic Ocean. This awareness can also

be seen at the policy level. India associated itself with the ATS despite the presence of South Africa, which was then ostracized by India on account of its apartheid policy. It was so because India wanted to be a party to the decision making body on the Antarctic region. This was very important considering the geostrategic vulnerability of India as Indian Ocean and Antarctic Ocean are in a continuum.

Further, India has been successful in raising several questions on behalf of the developing countries and the Non-Aligned countries. This has helped in establishing India as a leader of the developing countries. It has also enhanced her national prestige. By becoming the member of the Antarctic Treaty System India has assured that her interests will never be overlooked while deciding the future of this region. This is a remarkable achievement as Antarctic Ocean is being considered a 'Store house of future resources', and resources have become one of the most important factor affecting the geostrategic policy in the recent times.

APPENDIX I

THE ANTARCTIC TREATY

Done at Washington 1 December 1959

Entered into force 23 June 1961

Article I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, *inter alia*, any measure of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapon.
2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

Article II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

Article III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:
 - a. information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy of and efficiency of operations;
 - b. scientific personnel shall be exchanged in Antarctica between expeditions and stations;
 - c. scientific observations and results from Antarctica shall be exchanged and made freely available.

Article IV

Nothing contained in the present Treaty shall be interpreted as:

a. a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

b. a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

c. prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's rights of or claim or basis of claim to territorial sovereignty in Antarctica.

No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

Article V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.

2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

Article VI

The provisions of the present Treaty shall apply to the area south of 60 deg. South 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 VII

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.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of

a. all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

b. all stations in Antarctica occupied by its nationals; and

c. any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

Article VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under sub-paragraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

Article IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after the date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, 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 cooperation 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.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such times as that Contracting Party demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to

consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

Article X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

Article XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlement; but failure to reach agreement on reference to the International Court shall not absolve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

Article XII

1a. The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

b. Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provision of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the

expiration of such period.

2a. If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

b. Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article

c. If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

Article XIII

1. The present Treaty shall be subject to ratification by the signatory States. It 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 whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.

2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.

3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.

4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.

5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instruments of accession.

6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

Article XIV

The present Treaty, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.

APPENDIX II

THE CONVENTION ON THE CONSERVATION OF ANTARCTIC MARINE LIVING RESOURCES

Canberra, 20 May 1980

Article I

1. This Convention applies to the Antarctic marine living resources of the area south of 60 deg south latitude and to the Antarctic marine living resources of the area between that latitude and the Antarctic Convergence which form part of the Antarctic marine ecosystem.
2. Antarctic marine living resources means the populations of fin fish, molluscs, crustaceans and all other species of living organisms, including birds, found south of the Antarctic Convergence.
3. The Antarctic marine ecosystem means the complex of relationships of Antarctic marine living resources with each other and with their physical environment.
4. The Antarctic Convergence shall be deemed to be a line joining the following points along parallels of latitude and meridians of longitude:

50 deg S, 0 deg; 50 deg S, 30 deg E; 45 deg S, 30 deg E; 45 deg S, 80 deg E; 55 deg S, 80 deg E; 55 deg S, 150 deg E; 60 deg S, 150 deg E; 60 deg S, 50 deg W; 50 deg S, 50 deg W; 50 deg S, 0 deg.

Article II

1. The objective of this Convention is the conservation of Antarctic marine living resources.
2. For the purposes of this Convention, the term "conservation" includes rational use.
3. Any harvesting and associated activities in the area to which this convention applies shall be conducted in accordance with the provisions of this Convention and with the following principles of conservation:
 - (a) prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size

should not be allowed to fall below a level close to that which ensures the greatest net annual increment;

(b) maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to the levels defined in subparagraph (a) above; and

(c) prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources.

Article III

The Contracting Parties, whether or not they are Parties to the Antarctic Treaty, agree that they will not engage in any activities in the Antarctic Treaty area contrary to the principles and purposes of that Treaty and that, in their relations with each other, they are bound by the obligations contained in Articles I and V of the Antarctic Treaty.

Article IV

1. With respect to the Antarctic Treaty area, all Contracting Parties, whether or not they are Parties to the Antarctic Treaty, are bound by Articles IV and VI of the Antarctic Treaty in their relations with each other.

2. Nothing in this Convention and no acts or activities taking place while the present Convention is in force shall:

(a) constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in the Antarctic Treaty area or create any rights of sovereignty in the Antarctic Treaty area;

(b) be interpreted as a renunciation or diminution by any Contracting Party of, or as prejudicing, any right or claim on basis of claim to exercise coastal State jurisdiction under international law within the area to which this Convention applies;

(c) be interpreted as prejudicing the position of any Contracting Party as

regards its recognition or non-recognition of any such right, claim or basis of claim;

(d) affect the provision of Article IV, paragraph 2, of the Antarctic Treaty that no new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the Antarctic Treaty is in force.

Article V

1. The Contracting Parties which are not Parties to the Antarctic Treaty acknowledge the special obligations and responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the environment of the Antarctic Treaty area.

2. The Contracting Parties which are not Parties to the Antarctic Treaty agree that, in their activities in the Antarctic Treaty area, they will observe as and when appropriate the Agreed Measures for the Conservation of Antarctic Fauna and Flora and such other measures as have been recommended by the Antarctic Treaty Consultative Parties in fulfilment of their responsibility for the protection of the Antarctic environment from all forms of harmful human interference.

3. For the purposes of this Convention, "Antarctic Treaty Consultative Parties" means the Contracting Parties to the Antarctic Treaty whose Representatives participate in meetings under Article IX of the Antarctic Treaty.

Article VI

Nothing in this Convention shall derogate from the rights and obligations of Contracting Parties under the International Convention for the Regulation of Whaling and the Convention for the Conservation of Antarctic Seals.

Article VII

1. The Contracting Parties hereby establish and agree to maintain the Commission for the Conservation of Antarctic Marine Living Resources (hereinafter referred to as "the Commission").

2. Membership in the Commission shall be as follows:

(a) each Contracting Party which participated in the meeting at which this Convention was adopted shall be a Member of the Commission;

(b) each State Party which has acceded to this Convention pursuant to Article XXIX shall be entitled to be a Member of the Commission during such time as that acceding party is engaged in research or harvesting activities in relation to the marine living resources to which this Convention applies;

(c) each regional economic integration organization which has acceded to this Convention pursuant to Article XXIX shall be entitled to be a Member of the Commission during such time as its States members are so entitled;

(d) a Contracting Party seeking to participate in the work of the Commission pursuant to sub-paragraphs (b) and (c) above shall notify the Depositary of the basis upon which it seeks to become a Member of the Commission and of its willingness to accept conservation measures in force. The Depositary shall communicate to each Member of the Commission such notification and accompanying information. Within two months of receipt of such communication from the Depositary, any Member of the Commission may request that a special meeting of the Commission be held to consider the matter. Upon receipt of such request, the Depositary shall call such a meeting. If there is no request for a meeting, the Contracting Party submitting the notification shall be deemed to have satisfied the requirements for Commission Membership.

3. Each Member of the Commission shall be represented by one representative who may be accompanied by alternate representatives and advisers.

Article VIII

The Commission shall have legal personality and shall enjoy in the territory of each of the States Parties such legal capacity as may be necessary to perform its function and achieve the purposes of this Convention. The privileges and immunities to be enjoyed by the Commission and its staff in the territory of a State Party shall be determined by agreement between the Commission and the State Party concerned.

Article IX

1 . The function of the Commission shall be to give effect to the objective and principles set out in Article II of this Convention. To this end, it shall:

(a) facilitate research into and comprehensive studies of Antarctic marine living resources and of the Antarctic marine ecosystem;

(b) compile data on the status of and changes in population of Antarctic marine living resources and on factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations;

(c) ensure the acquisition of catch and effort statistics on harvested populations;

(d) analyse, disseminate and publish the information referred to in subparagraphs (b) and (c) above and the reports of the Scientific Committee:

(e) identify conservation needs and analyse the effectiveness of conservation measures;

(f) formulate, adopt and revise conservation measures on the basis of the best scientific evidence available, subject to the provisions of paragraph 5 of this Article;

(g) implement the system of observation and inspection established under Article XXIV of this Convention;

(h) carry out such other activities as are necessary to fulfil the objective of this Convention.

2. The conservation measures referred to in paragraph 1(f) above include the following:

(a) the designation of the quantity of any species which may be harvested in the area to which this Convention applies;

(b) the designation of regions and sub-regions based on the distribution of populations of Antarctic marine living resources;

(c) the designation of the quantity which may be harvested from the populations of regions and sub-regions;

(d) the designation of protected species;

(e) the designation of the size, age and, as appropriate, sex of species which may be harvested;

(f) the designation of open and closed seasons for harvesting;

(g) the designation of the opening and closing of areas, regions or sub-regions for purposes of scientific study or conservation, including special areas for protection and scientific study;

(h) regulation of the effort employed and methods of harvesting, including fishing gear, with a view, inter alia, to avoiding undue concentration of harvesting in any region or sub-region;

(i) the taking of such other conservation measures as the Commission considers necessary for the fulfilment of the objective of this Convention, including measures concerning the effects of harvesting and associated activities on components of the marine ecosystem other than the harvested populations.

3. The Commission shall publish and maintain a record of all conservation measures in force.

4. In exercising its functions under paragraph 1 above, the Commission shall take full account of the recommendations and advice of the Scientific Committee.

5. The Commission shall take full account of any relevant measures or regulations established or recommended by the Consultative Meetings pursuant to Article IX of the Antarctic Treaty or by existing fisheries commissions responsible for species which may enter the area to which this Convention applies, in order that there shall be no inconsistency between the rights and obligations of a Contracting Party under such regulations or measures and conservation measures which may be adopted by the Commission.

6. Conservation measures adopted by the Commission in accordance with this Convention shall be implemented by Members of the Commission in the following manner:

(a) the Commission shall notify conservation measures to all Members of the Commission;

(b) conservation measures shall become binding upon all Members of the Commission 180 days after such notification, except as provided in subparagraphs (c) and (d) below:

(c) if a Member of the Commission, within ninety days following the notification specified in subparagraph (a), notifies the Commission that it is unable to accept the conservation measure, in whole or in part, the measure shall not, to the extent stated, be binding upon that Member of

the Commission;

(d) in the event that any Member of the Commission invokes the procedure set forth in subparagraph (c) above, the Commission shall meet at the request of any Member of the Commission to review the conservation measure. At the time of such meeting and within thirty days following the meeting, any Member of the Commission shall have the right to declare that it is no longer able to accept the conservation measure, in which case the Member shall no longer be bound by such measure.

Article X

1. The Commission shall draw the attention of any State which is not a Party to this Convention to any activity undertaken by its nationals or vessels which, in the opinion of the Commission, affects the implementation of the objective of this Convention.

2. The Commission shall draw the attention of all Contracting Parties to any activity which, in the opinion of the Commission, affects the implementation by a Contracting Party of the objective of this Convention or the compliance by that Contracting Party with its obligations under this Convention.

Article XI

The Commission shall seek to co-operate with Contracting Parties which may exercise jurisdiction in marine areas adjacent to the area to which this Convention applies in respect of the conservation of any stock or stocks of associated species which occur both within those areas and the area to which this Convention applies, with a view to harmonizing the conservation measures adopted in respect of such stocks.

Article XII

1. Decisions of the Commission on matters of substance shall be taken by consensus. The question of whether a matter is one of substance shall be treated as a matter of substance.

2. Decisions on matters other than those referred to in paragraph 1 above shall be taken by a simple majority of the Members of the Commission present and voting.

3. In Commission consideration of any item requiring a decision, it shall be made clear whether a regional economic integration organization will participate in the taking of the decision and, if so, whether any of its

member States will also participate. The number of Contracting Parties so participating shall not exceed the number of member States of the regional economic integration organization which are Members of the Commission.

4. In the taking of decisions pursuant to this Article, a regional economic integration organization shall have only one vote.

Article XIII

1. The headquarters of the Commission shall be established at Hobart, Tasmania, Australia.

2. The Commission shall hold a regular annual meeting. Other meetings shall also be held at the request of one-third of its members and as otherwise provided in this Convention. The first meeting of the Commission shall be held within three months of the entry into force of this Convention, provided that among the Contracting Parties there are at least two States conducting harvesting activities within the area to which this Convention applies. The first meeting shall, in any event, be held within one year of the entry into force of this Convention. The Depositary shall consult with the signatory States regarding the first Commission meeting, taking into account that a broad representation of such States is necessary for the effective operation of the Commission.

3. The Depositary shall convene the first meeting of the Commission at the headquarters of the Commission. Thereafter, meetings of the Commission shall be held at its headquarters, unless it decides otherwise.

4. The Commission shall elect from among its members a Chairman and Vice-Chairman, each of whom shall serve for a term of two years and shall be eligible for re-election for one additional term. The first Chairman shall, however, be elected for an initial term of three years. The Chairman and Vice-Chairman shall not be representatives of the same Contracting Party.

5. The Commission shall adopt and amend as necessary the rules of procedure for the conduct of its meetings, except with respect to the matters dealt with in Article XII of this Convention.

6. The Commission may establish such subsidiary bodies as are necessary for the performance of its functions.

Article XIV

1. The Contracting Parties hereby establish the Scientific Committee for the Conservation of Antarctic Marine Living Resources (hereinafter referred to as the "Scientific Committee") which shall be a consultative body to the Commission. The Scientific Committee shall normally meet at the headquarters of the Commission unless the Scientific Committee decides otherwise.
2. Each Member of the Commission shall be a member of the Scientific Committee and shall appoint a representative with suitable scientific qualifications who may be accompanied by other experts and advisers.
3. The Scientific Committee may seek the advice of other scientists and experts as may be required on an ad hoc basis.

Article XV

1. The Scientific Committee shall provide a forum for consultation and co-operation concerning the collection, study and exchange of information with respect to the marine living resources to which this Convention applies. It shall encourage and promote co-operation in the field of scientific research in order to extend knowledge of the marine living resources of the Antarctic marine ecosystem.
2. The Scientific Committee shall conduct such activities as the Commission may direct in pursuance of the objective of this Convention and shall:
 - (a) establish criteria and methods to be used for determinations concerning the conservation measures referred to in Article IX of this Convention;
 - (b) regularly assess the status and trends of the populations of Antarctic marine living resources;
 - (c) analyse data concerning the direct and indirect effects of harvesting on the populations of Antarctic marine living resources;
 - (d) assess the effects of proposed changes in the methods or levels of harvesting and proposed conservation measures;
 - (e) transmit assessments, analyses, reports and recommendations to the Commission as requested or on its own initiative regarding measures and research to implement the objective of this Convention;

(f) formulate proposals for the conduct of international and national programs of research into Antarctic marine living resources.

3. In carrying out its functions, the Scientific Committee shall have regard to the work of other relevant technical and scientific organizations and to the scientific activities conducted within the framework of the Antarctic Treaty.

Article XVI

1. The first meeting of the Scientific Committee shall be held within three months of the first meeting of the Commission. The Scientific Committee shall meet thereafter as often as may be necessary to fulfil its functions.

2. The Scientific Committee shall adopt and amend as necessary its rules of procedure. The rules and any amendments thereto shall be approved by the Commission. The rules shall include procedures for the presentation of minority reports.

3. The Scientific Committee may establish, with the approval of the Commission, such subsidiary bodies as are necessary for the performance of its functions.

Article XVII

1. The Commission shall appoint an Executive Secretary to serve the Commission and Scientific Committee according to such procedures and on such terms and conditions as the Commission may determine. His term of office shall be for four years and he shall be eligible for reappointment.

2. The Commission shall authorize such staff establishment for the Secretariat as may be necessary and the Executive Secretary shall appoint, direct and supervise such staff according to such rules and procedures and on such terms and conditions as the Commission may determine.

3. The Executive Secretary and Secretariat shall perform the functions entrusted to them by the Commission .

Article XVIII

The official languages of the Commission and of the Scientific Committee shall be English, French, Russian and Spanish.

Article XIX

1. At each annual meeting, the Commission shall adopt by consensus its budget and the budget of the Scientific Committee.
2. A draft budget for the Commission and the Scientific Committee and any subsidiary bodies shall be prepared by the Executive Secretary and submitted to the Members of the Commission at least sixty days before the annual meeting of the Commission.
3. Each Member of the Commission shall contribute to the budget. Until the expiration of five years after the entry into force of this Convention, the contribution of each Member of the Commission shall be equal. Thereafter the contribution shall be determined in accordance with two criteria: the amount harvested and an equal sharing among all Members of the Commission. The Commission shall determine by consensus the proportion in which these two criteria shall apply.
4. The financial activities of the Commission and Scientific Committee shall be conducted in accordance with financial regulations adopted by the Commission and shall be subject to an annual audit by external auditors selected by the Commission.
5. Each Member of the Commission shall meet its own expenses arising from attendance at meetings of the Commission and of the Scientific Committee.
6. A Member of the Commission that fails to pay its contributions for two consecutive years shall not, during the period of its default, have the right to participate in the taking of decisions in the Commission.

Article XX

1. The Members of the Commission shall, to the greatest extent possible, provide annually to the Commission and to the Scientific Committee such statistical, biological and other data and information as the Commission and Scientific Committee may require in the exercise of their functions.
2. The Members of the Commission shall provide, in the manner and at such intervals as may be prescribed, information about their harvesting activities, including fishing areas and vessels, so as to enable reliable catch and effort statistics to be compiled.

3. The Members of the Commission shall provide to the Commission at such intervals as may be prescribed information on steps taken to implement the conservation measures adopted by the Commission.

4. The Members of the Commission agree that in any of their harvesting activities, advantage shall be taken of opportunities to collect data needed to assess the impact of harvesting.

Article XXI

1. Each Contracting Party shall take appropriate measures within its competence to ensure compliance with the provisions of this Convention and with conservation measures adopted by the Commission to which the Party is bound in accordance with Article IX of this Convention.

2. Each Contracting Party shall transmit to the Commission information on measures taken pursuant to paragraph 1 above, including the imposition of sanctions for any violation.

Article XXII

1. Each Contracting Party undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity contrary to the objective of this Convention.

2. Each Contracting Party shall notify the Commission of any such activity which comes to its attention.

Article XXIII

1. The Commission and the Scientific Committee shall co-operate with the Antarctic Treaty Consultative Parties on matters falling within the competence of the latter.

2. The Commission and the Scientific Committee shall co-operate, as appropriate, with the Food and Agriculture Organization of the United Nations and with other Specialised Agencies.

3. The Commission and the Scientific Committee shall seek to develop co-operative working relationships, as appropriate, with inter-governmental and non-governmental organizations which could contribute to their work, including the Scientific Committee on Antarctic Research, the Scientific Committee on Oceanic Research and the

International Whaling Commission.

4. The Commission may enter into agreements with the organizations referred to in this Article and with other organizations as may be appropriate. The Commission and the Scientific Committee may invite such organizations to send observers to their meetings and to meetings of their subsidiary bodies.

Article XXIV

1. In order to promote the objective and ensure observance of the provisions of this Convention, the Contracting Parties agree that a system of observation and inspection shall be established.

2. The system of observation and inspection shall be elaborated by the Commission on the basis of the following principles:

(a) Contracting Parties shall co-operate with each other to ensure the effective implementation of the system of observation and inspection, taking account of the existing international practice. This system shall include, *inter alia*, procedures for boarding and inspection by observers and inspectors designated by the Members of the Commission and procedures for flag State prosecution and sanctions on the basis of evidence resulting from such boarding and inspections. A report of such prosecutions and sanctions imposed shall be included in the information referred to in Article XXI of this Convention;

(b) in order to verify compliance with measures adopted under this Convention, observation and inspection shall be carried out on board vessels engaged in scientific research or harvesting of marine living resources in the area to which this Convention applies, through observers and inspectors designated by the Members of the Commission and operating under terms and conditions to be established by the Commission;

(c) designated observers and inspectors shall remain subject to the jurisdiction of the Contracting Party of which they are nationals. They shall report to the Member of the Commission by which they have been designated which in turn shall report to the Commission.

3. Pending the establishment of the system of observation and inspection, the Members of the Commission shall seek to establish interim arrangements to designate observers and inspectors and such designated observers and inspectors shall be entitled to carry out inspections in accordance with the principles set out in paragraph 2 above.

Article XXV

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of this Convention, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.
2. Any dispute of this character not so resolved shall, with the consent in each case of all Parties to the dispute, be referred for settlement to the International Court of Justice or to arbitration; but failure to reach agreement on reference to the International Court or to arbitration shall not absolve Parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 above.
3. In cases where the dispute is referred to arbitration, the arbitral tribunal shall be constituted as provided in the Annex to this Convention.

Article XXVI

1. This Convention shall be open for signature at Canberra from 1 August to 31 December 1980 by the States participating in the Conference on the Conservation of Antarctic Marine Living Resources held at Canberra from 7 to 20 May 1980.
2. The States which so sign will be the original signatory States of the Convention.

Article XXVII

1. This Convention is subject to ratification, acceptance or approval by signatory States.
2. Instruments of ratification, acceptance or approval shall be deposited with the Government of Australia, hereby designated as the Depositary.

Article XXVIII

1. This Convention shall enter into force on the thirtieth day following the

date of deposit of the eighth instrument of ratification, acceptance or approval by States referred to in paragraph 1 of Article XXVI of this Convention.

2. With respect to each State or regional economic integration organization which subsequent to the date of entry into force of this Convention deposits an instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the thirtieth day following such deposit.

Article XXIX

1. This Convention shall be open for accession by any State interested in research or harvesting activities in relation to the marine living resources to which this Convention applies.

2. This Convention shall be open for accession by regional economic integration organizations constituted by sovereign States which include among their members one or more States Members of the Commission and to which the States members of the organization have transferred, in whole or in part, competences with regard to the matters covered by this Convention. The accession of such regional economic integration organizations shall be the subject of consultations among Members of the Commission.

Article XXX

1. This Convention may be amended at any time.

2. If one-third of the Members of the Commission request a meeting to discuss a proposed amendment the Depositary shall call such a meeting.

3. An amendment shall enter into force when the Depositary has received instruments of ratification, acceptance or approval thereof from all the Members of the Commission.

4. Such amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification, acceptance or approval by it has been received by the Depositary. Any such Contracting Party from which no such notice has been received within a period of one year from the date of entry into force of the amendment in accordance with paragraph 3 above shall be deemed to have withdrawn from this Convention.

Article XXXI

1. Any Contracting Party may withdraw from this Convention on 30 June of any year, by giving written notice not later than 1 January of the same year to the Depositary, which, upon receipt of such a notice, shall communicate it forthwith to the other Contracting Parties.
2. Any other Contracting Party may, within sixty days of the receipt of a copy of such a notice from the Depositary, give written notice of withdrawal to the Depositary in which case the Convention shall cease to be in force on 30 June of the same year with respect to the Contracting Party giving such notice.
3. Withdrawal from this Convention by any Member of the Commission shall not affect its financial obligations under this Convention.

Article XXXII

The Depositary shall notify all Contracting Parties of the following:

- (a) signatures of this Convention and the deposit of instruments of ratification, acceptance, approval or accession;
- (b) the date of entry into force of this Convention and of any amendment thereto.

Article XXXIII

1. This Convention, of which the English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Government of Australia which shall transmit duly certified copies thereof to all signatory and acceding Parties.
2. This Convention shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

Drawn up at Canberra this twentieth day of May 1980.

APPENDIX III

CONVENTION FOR THE CONSERVATION OF ANTARCTIC SEALS

London, 1 June 1972

Article I

SCOPE

1 . This Convention applies to the sea south of 60 deg South Latitude, in respect of which the Contracting Parties affirm the provisions of Article IV of the Antarctic Treaty.

2. This Convention may be applicable to any or all of the following species:

Southern elephant seal *Mirounga leonina*,

Leopard seal *Hydrurga leptonyx*,

Weddell seal *Leptonychotes weddelli*,

Crabeater seal *Lobodon carcinophagus*,

Ross seal *Ommatophoca rossi*,

Southern fur seals *Arctocephalus* sp.

3. The Annex to this Convention forms an integral part thereof.

Article 2

IMPLEMENTATION

I . The Contracting Parties agree that the species of seals enumerated in Article I shall not be killed or captured within the Convention area by their nationals or vessels under their respective flags except in accordance with the provisions of this Convention .

2. Each Contracting Party shall adopt for its nationals and for vessels under its flag such laws, regulations and other measures, including a

permit system as appropriate, as may be necessary to implement this Convention.

Article 3

ANNEXED MEASURES

1. This Convention includes an Annex specifying measures which the Contracting Parties hereby adopt. Contracting Parties may from time to time in the future adopt other measures with respect to the conservation, scientific study and rational and humane use of seal resources, prescribing inter alia:

- a) permissible catch;
- b) protected and unprotected species;
- c) open and closed seasons;
- d) open and closed areas, including the designation of reserves;
- e) the designation of special areas where there shall be no disturbance of seals;
- f) limits relating to sex, size, or age for each species;
- g) restrictions relating to time of day and duration, limitations of effort and methods of sealing;
- h) types and specifications of gear and apparatus and appliances which may be used;
- i) catch returns and other statistical and biological records;
- j) procedures for facilitating the review and assessment of scientific information;
- k) other regulatory measures including an effective system of inspection.

2. The measures adopted under paragraph (1) of this Article shall be based upon the best scientific and technical evidence available.

3. The Annex may from time to time be amended in accordance with the procedures provided for in Article 9.

Article 4

SPECIAL PERMITS

1. Notwithstanding the provisions of this Convention, any Contracting Party may issue permits to kill or capture seals in limited quantities and in conformity with the objectives and principles of this Convention for the following purposes:

a) to provide indispensable food for men or dogs;

b) to provide for scientific research; or

c) to provide specimens for museums, educational or cultural institutions.

2. Each Contracting Party shall, as soon as possible, inform the other Contracting Parties and SCAR of the purpose and content of all permits issued under paragraph (1) of this Article and subsequently of the numbers of seals killed or captured under these permits.

Article 5

EXCHANGE OF INFORMATION AND SCIENTIFIC ADVICE

1. Each Contracting Party shall provide to the other Contracting Parties and to SCAR the information specified in the Annex within the period indicated therein.

2. Each Contracting Party shall also provide to the other Contracting Parties and to SCAR before 31 October each year information on any steps it has taken in accordance with Article 2 of this Convention during the preceding period of 1 July to 30 June.

3. Contracting Parties which have no information report under the two preceding paragraphs shall indicate this formally before 31 October each year.

4. SCAR is invited:

a) to assess information received pursuant to this Article; encourage exchange of scientific data and information among the Contracting Parties; recommend programmes for scientific research; recommend statistical and biological data to be collected by sealing expeditions

within the Convention area; and suggest amendments to the Annex; and

b) to report on the basis of the statistical, biological and other evidence available when the harvest of any species of seal in the Convention area is having a significantly harmful effect on the total stocks of such species or on the ecological system in any particular locality.

5. SCAR is invited to notify the Depositary which shall report to the Contracting Parties when SCAR estimates in any sealing season that the permissible catch limits for any species are likely to be exceeded and, in that case, to provide an estimate of the date upon which the permissible catch limits will be reached. Each Contracting party shall then take appropriate measures to prevent its nationals and vessels under its flag from killing or capturing seals of that species after the estimated date until the Contracting Parties decide otherwise.

6. SCAR may if necessary seek the technical assistance of the Food and Agriculture Organization of the United Nations in making its assessments.

7. Notwithstanding the provisions of paragraph (1) of Article 1 the Contracting Parties shall, in accordance with their internal law, report to each other and to SCAR, for consideration, statistics relating to the Antarctic seals listed in paragraph (2) of Article 1 which have been killed or captured by their nationals and vessels under their respective flags in the area of floating sea ice north of 60 deg South latitude.

Article 6

CONSULTATIONS BETWEEN CONTRACTING PARTIES

1. At any time after commercial sealing has begun a Contracting Party may propose through the Depositary that a meeting of Contracting Parties be convened with a view to:

a) establishing by a two-thirds majority of the Contracting Parties, including the concurring votes of all States signatory to this Convention present at the meeting, an effective system of control, including inspection, over the implementation of the provisions of this Convention;

b) establishing a commission to perform such functions under this Convention as the Contracting Parties may deem necessary; or

c) considering other proposals, including:

(i) the provision of independent scientific advice;
(ii) the establishment, by a two-thirds majority, of a scientific advisory committee which may be assigned some or all of the functions requested of SCAR under this Convention, if commercial sealing reaches significant proportions;

(iii) the carrying out of scientific programmes with the participation of the Contracting Parties; and

(iv) the provision of further regulatory measures, including moratoria.

2. if one-third of the Contracting Parties indicate agreement the Depositary shall convene such a meeting, as soon as possible.

3. A meeting shall be held at the request of any Contracting Party, if SCAR reports that the harvest of any species of Antarctic seal in the area to which this Convention applies is having a significantly harmful effect on the total stocks or the ecological system in any particular locality.

Article 7

REVIEW OF OPERATIONS

The Contracting Parties shall meet within five years after the entry into force of this Convention and at least every five years thereafter to review the operation of the Convention.

Article 8

AMENDMENTS TO THE CONVENTION

1. This Convention may be amended at any time. The text of any amendment proposed by a Contracting Party shall be submitted to the Depositary, which shall transmit it to all the Contracting Parties.

2. If one-third of the Contracting Parties request a meeting to discuss the proposed amendment the Depositary shall call such a meeting.

3. An amendment shall enter into force when the Depositary has received instruments of ratification or acceptance thereof from all the Contracting Parties.

Article 9

AMENDMENTS TO THE ANNEX

1. Any Contracting Party may propose amendments to the Annex to this Convention. The text of any such proposed amendment shall be submitted to the Depositary which shall transmit it to all Contracting Parties.

2. Each such proposed amendment shall become effective for all Contracting Parties six months after the date appearing on the notification from the Depositary to the Contracting Parties, if within 120 days of the notification date, no objection has been received and two-thirds of the Contracting Parties have notified the Depositary in writing of their approval.

3. If an objection is received from any Contracting Party within 120 days of the notification date, the matter shall be considered by the Contracting Parties at their next meeting. If unanimity on the matter is not reached at the meeting, the Contracting Parties shall notify the Depositary within 120 days from the date of the closure, of the meeting of their approval or rejection of the original amendment or of any new amendment proposed by the meeting. If, by the end of this period, two-thirds of the Contracting Parties have approved such amendment, it shall become effective six months from the date of the closure of the meeting for those Contracting Parties which have by then notified their approval.

4. Any Contracting Party which has objected to a proposed amendment may at any time withdraw that objection, and the proposed amendment shall become effective with respect to such Party immediately if the amendment is already in effect, or at such time as it becomes effective under the terms of this Article.

5. The Depositary shall notify each Contracting Party immediately upon receipt of each approval or objection, of each withdrawal of objection, and of the entry into force of any amendment.

6. Any State which becomes a party to this Convention after an amendment to the Annex has entered into force shall be bound by the Annex as so amended. Any State which becomes a Party to this Convention during the period when a proposed amendment is pending may approve or object to such an amendment within the time limits applicable to other Contracting Parties.

Article 10

SIGNATURE

This Convention shall be open for signature at London from 1 June to 31 December 1972 by States participating in the Conference on the Conservation of Antarctic Seals held at London from 3 to 11 February 1972.

Article 11

RATIFICATION

This Convention is subject to ratification or acceptance. Instruments of ratification or acceptance shall be deposited with the Government of the United Kingdom of Great Britain and Northern Ireland, hereby designated as the Depositary.

Article 12

ACCESSION

This Convention shall be open for accession by any State which may be invited to accede to this Convention with the consent of all the Contracting Parties.

Article 13

ENTRY INTO FORCE

1. This Convention shall enter into force on the thirtieth day following the date of deposit of the seventh instrument of ratification or acceptance.
2. Thereafter this Convention shall enter into force for each ratifying, accepting or acceding State on the thirtieth day after deposit by such State of its instrument of ratification, acceptance or accession.

Article 14

WITHDRAWAL

Any Contracting Party may withdraw from this Convention on 30 June

of any year by giving notice on or before 1 January of the same year to the Depositary, which upon receipt of such a notice shall at once communicate it to the other Contracting Parties. Any other Contracting Party may, in like manner, within one month of the receipt of a copy of such a notice from the Depositary, give notice of withdrawal, so that the Convention shall cease to be in force on 30 June of the same year with respect to the Contracting Party giving such notice.

Article 15

NOTIFICATION BY THE DEPOSITARY

The Depositary shall notify all signatory and acceding States of the following:

- a) signatures of this Convention, the deposit of instruments of ratification, acceptance or accession and notices of withdrawal;
- b) the date of entry into force of this Convention and of any amendments to it or its Annex.

Article 16

CERTIFIED COPIES AND REGISTRATION

1 . This Convention, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United Kingdom of Great Britain and Northern Ireland, which shall transmit duly certified copies thereof to all signatory and acceding States.

2. This Convention shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

Done at London, this 1st day of June 1972.

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