THIRD WORLD GEOPOLITICAL PERSPECTIVE ON ANTARCTICA

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CERTIFICATE

Certified that the Dissertation entitled "Third World Geopolitical Perspective on Antarctica" submitted by Mr. **Shashi Bhushan** in fulfilment of Nine Credits out for the award of the Degree of Master of Philosophy (M. Phil.) of this University, is his original work and may be placed the Examiners for evaluation. This Dissertation has not been submitted for the award of any other degree of this university or of any other university to the best of our knowledge.

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CHAPTER I

INTRODUCTION

A BRIEF HISTORICAL PERSPECTIVE ON ANTARCTICA

Antarctica has very old history which goes even before the start of Christian era. Many of the Greek Philosophers who had supported the theory of a round earth, including Phythagoras in the sixth century B.C. and Aristotle in the fourth century B.C. who argued that there need to be a southern land mass. As the North Pole was associated with the bear constellation (arctos in Greek), it seemed logical to call this hypothesized southern land mass antiarctos or Antarctica.[1]

There is also a legend of a seventh century A.D. Polynesian warrior named Ui-ti-Rangiora who believed to have seen the Antarctica, when his craft drifted to the distant south until he found a frozen sea. But J. Child thinks this might have been only an iceberg.[2] The actual documented records of man going closer to Antarctica could be found only after Great Age of Exploration in the fifteenth and sixteenth century.

In sixteenth century, advances in navigation, medicine and nutrition encouraged people to fully explore the coast lines of America, Asia and Africa. These developments, encouraged people to go further south with the motive of science and curiosity and with the hope of

discovering a land full of opportunities.[3]

Europeans, the so called 'empire builders'[4] with mind full of myths and fables, with hope of conquest, trade and colonisation set out to discover that unseen land mass, which was thought full of people and with produce of all kind.

In search of this illusion Yues-Joseph de Kerguelen Tremarec set sail in 1772. He came back with the news of a large land mass, which was later found to be the island of Kerguelean or Land of Desolation as he renamed it.

Dalrymple's influence encouraged a British expedition to these southern latitudes. James Cook was chosen to lead the expedition. Sailing since 1772, he spent 3 years on his circumnavigation voyage. He was the first man to cross the 66½° South latitude circle, the Antarctic Circle. His efforts to penetrate ice-bergs led him as South as 71°10' S. But he was not able to see the continental part as he was about 165 kilometers away from the Antarctic coast. However out of ignorance and some what over enthusiastically he concluded "I can be bold enough to say that no man will ever venture further than I have done and that the land which may lie to the south will never be explored."[5] On his voyage he did discover South Sandwich Island. Detailed account of the voyage and the whales and seals stimulated a massive exploitation of seals. As a

result, by 1830, the Fur seals in Southern Ocean was almost extinct.[6] The sealing captains were secretive about their activities so that no new charts of the Southern islands resulted. Hardly any scientist were able to travel on the sealing vessels. As a result man's knowledge about that postulated icy continent was not greatly increased.

In 1819, the key South Shetland Islands were discovered by another British Captain, William Smith.[7]

The exact discovery of Antarctica is claimed by three nations. Edward Bramsfield of Britain is believed to have sighted the Antarctic Peninsula in February 1820. The Thaddeus von Bellingshausen, a Russian, sent by Czar Alexander I to find staging posts for expansion of trade, has also claimed to have sighted the Antarctica in January 1920. Meanwhile the Americans have championed Nathaniel Palmer, for sighting Antarctica in November 1820.[8] All these claims rely on historical assessment of ships log-books. It is difficult to conclude who is first sighter, however it is certain that on 7th February 1821, Captain John Dav, of the sealers ship 'Huron' was the first man to set foot on Antarctica.[9]

The most significant voyage for geographic and scientific purpose, of the nineteenth century were those by Bellingshausen, Wikes, Drimont d'Urville and James Clark Ross. Bellingshausean discovered Peter II Island and Alexander Island, charted around South Georgia, South

Sandwich Island, and South Shetland Islands, and penetrated the pack ice up to $69^{o}53'S$.

Although United State's exploring expedition, led by Charles Wilkes, was badly organised and poorly equipped, but was somehow successful. He searched 2400 Km of Antarctic coast. However on his return he was court-martialled by U.S. Navy for his conduct. On the other hand, Royal Geographical Society awarded him with a gold medal for his achievements. French expedition led by Jules Sebastien Cesar Dumont d' Urville did lot of scientific work. He discovered magnetic pole and asserted that geographic pole is different from that of magnetic one.[10]

James Clark Ross, having 18 years experience in Arctic led the British expedition. He discovered the Transantarctic Mountains, great barriers of ice forming the Ross Ice Shelfand, two volcanoes, one of which, Mount Erebus, is the most active volcano of Antarctica.[12]

After this, flurry of hunting and scientific interest abated, Attention was shifted to the northern regions, and Antarctica was left alone for a half century on the belief that there was nothing of much value or interest in the austral waters or land.[13] However, with the invention of harpoon guns attention was once again shifted to Antarctica for large scale whaling.

In 1898 Belgian, Adrian de Gerlache and his group became the first to spend winter in Antarctica, however they were compelled to do so when their ship Belgica got trapped in the ice off the western coast of the peninsula.P[14]

The beginning of the 20th century was very active for Antarctica when many expeditions tried to reach at south pole. In 1901 British Captain Robert Falcon Scott sledged up to 82°S (approximately 575 miles from South Pole); Nordenskjold's Swedish expedition in 1901-03 also failed as their ship was crushed and sunk by pack ice; and in 1907-1909 Brnesh Shackleton reached up to 88° South only 97 miles away from the Pole.

During 1911 and 1912, five major expeditions were made which is popularly known as "the race to the Pole".[15] The Norwegian Ronald Amundson became the first man to step on South Pole on December 14th, 1911. British expedition under Royal Navy Captain Robert F. Scott, also reached to pole but after Amundson on 16th January 1912.

After first World War United States activities in Antarctica increased, especially those led by Admiral Richard E. Byrd in the late 1920s and 1930s. Byrd set up a series of "Little America " bases on the coast of Antarctica, opposite New Zealand and mounted numerous aerial expeditions, including the first polar flight in 1929.[16] He also made territorial claims for these bases (however United States never ratified it). In, 1946 the United States

launched the largest Antarctic expedition ever, "Operation High Jump", with 13 ships (including an air craft carrier and a submarine) and almost 5,000 men. Later regular scientific expeditions were being organised by the then maritime nations.

GEOGRAPHICAL SETTING : Locational Imperatives

Last of the continents to be discovered, Antarctica, the land of superlatives, is remotest, coldiest, highest and most lifeless of all continents. It has days and nights of six months each. As a frozen desert, continent has been covered by a thick mental of ice sheets, where blizzards blow continuously. Only 2.5 per cent of the Antarctic is ice free. In life forms, Antarctica is not very rich, animal life is represented by marine and bird species and plant life by lichens, mosses and algae.

Located asymmetrically around the Southern Geographical Pole, Antarctica has been surrounded by three expances of great oceans, the Atlantic, the Pacific and the Indian Ocean. Closest part of any other continent to Antarctica is the tip of South America which is about 1000 km away from the extended portion of Antarctica that is the Antarctic Peninsula. New Zealand, Australia and South Africa is even twice and thrice the distance away respectively.

Inspite of the uniqueness of Antarctica there is no single definition to delimit the Antarctica. For some it

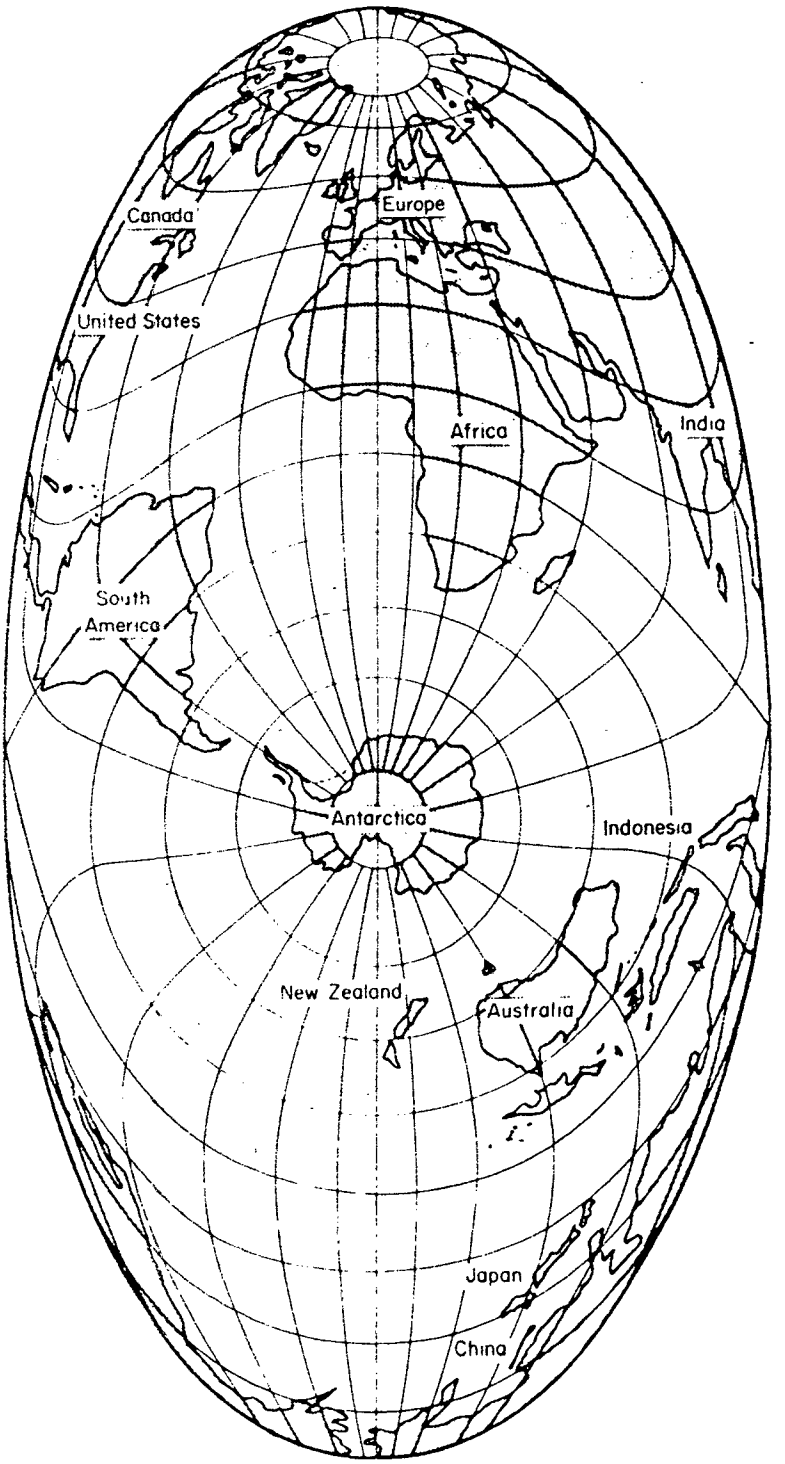


Figure The world viewed from Antarctica—this offers an alternative perspective to that offered by most world maps.

is the Antarctic continent (physical land) others include frozen portion during winter also in the Antarctica. However Antarctica Treaty define Antarctica as all area sea, ice and land south of 60°S. parallel. From the environmental point of view taking ecosystem approach, the Antarctic Convergence, a relatively narrow zone that extends all around the continent between 45°S and 60°S parallels, is generally regarded as the best natural definition of the Antarctica.

This distinctive Antarctic environment is governed by a number of geographical factors such as topography, tectonices, structure, marine system, climate, glacial system and periglacial system etc.

Physiography

The continent covers an area of 13.918 million square kilometres and is almost twice the size of Australia and about five times that of India. About 98 per cent of continent is covered by permanent ice cover, which is on an average 1800 metre thick, but at some places it reaches up to 4500 metres.[17] The ice cover rises steeply near its periphery and reaches an altitude of 4000 metres in West Antarctica.

The high plateau of East Antarctica has about 3.5 million square metre surface area above 3000 mt. plus a central area of above 4000 mt. covered by perpetual snow. In

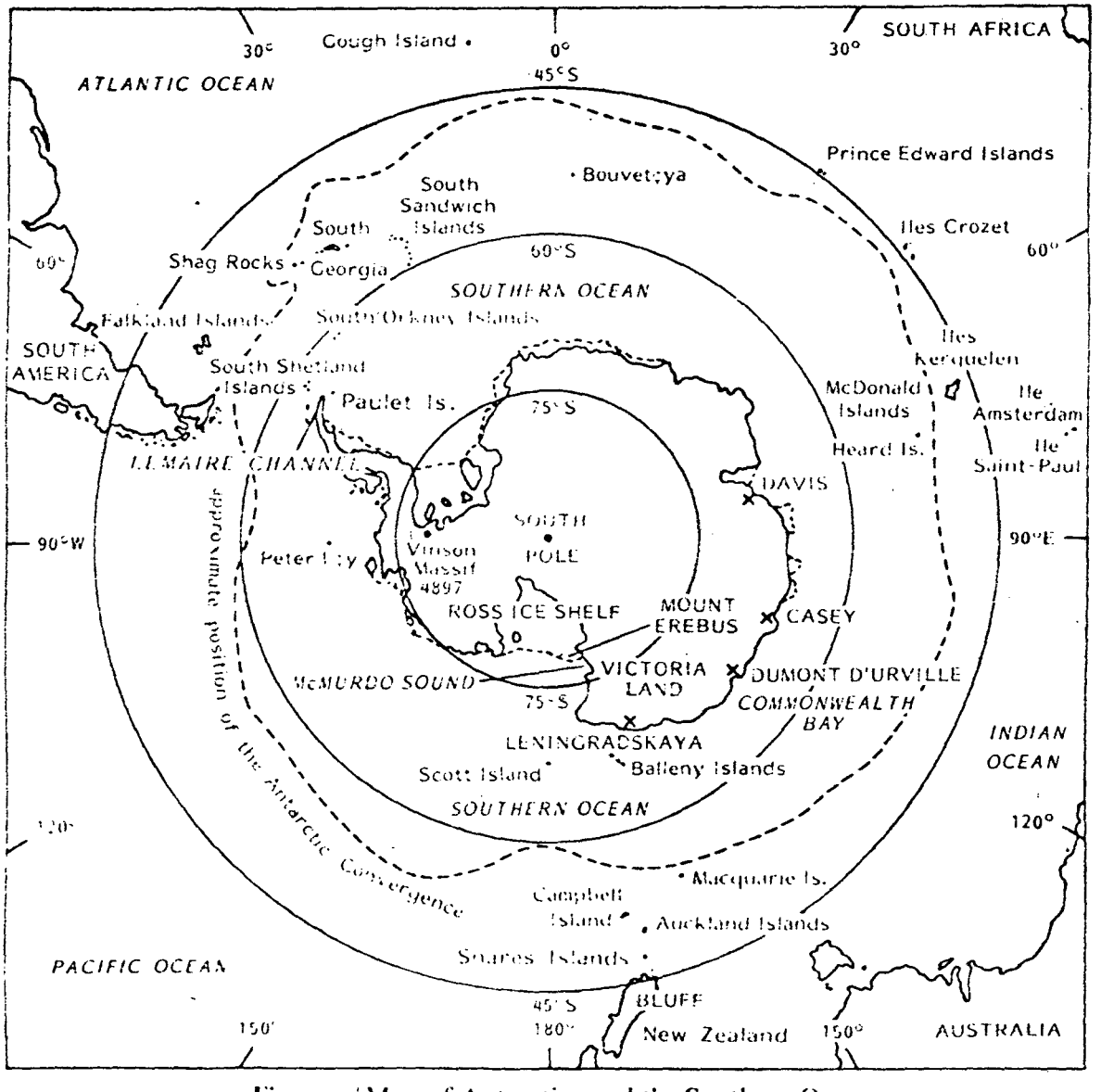


Figure 1 Map of Antarctica and the Southern Ocean.

contrast to relatively smooth elevated surface of East Antarctic Plateau West Antarctica is highly dissected. In West Antarctica there is archipelago with three upland centres, namely the Antarctic peninsula, the Ellsworth and Marie Byrd Land massifs. Continent's highest peak Vinsor Massif (5140 metre) is located on Ellsworth Mountain.[18] The Transantarctic Mountain transverse the continent, spanning more than 3500 km., from Cape Adare to isolated ranges close to the Filehmer Ice Shelf.

On the Eastern side of Mc-Murdo Sound, opposite Ross Islands, lies Antarctica's most intriguing areas, the dry valleys covering an area of 3000 sq. km. The valley is the driest place on earth as no rain has fallon there atleast for 2 million years. Valleys are generally 5 to 10 kms. wide and 10 to 15 kms. long. Some of the main ice free valleys are Taylor, Wright, Victoria, and the Barvic Valleys.[19]

Surprisingly many lakes perennially ice covered, and partially bounded by glaciers ice are found in some Antarctic coastal region. The largest fresh water lake of interior Antarctic, is lake Untersee.

The islands located on Scotia Arc includes Falkland Islands, South Georgia, South Sandwich Island, South Orkey Islands and South Shetland Island. The Islands located on seismically Active Ridges of the Southern

Atlantic, Indian and Pacific Oceans are Tristan da Cunha Group, Gough Island, Bouvet Island, Marion Island, Prince Island, Amsterdum Island, St. Paul, Macquarie Island. Only three island groups are located on aseismic ridges in the Southern Indian and Pacific Oceans. They are Crozet Islands, Kerguelen Islands, and the Heard Islands. The Ballery Islands, Scott Island and Peter I Islands are located on the continental shelf of Antarctica.

The continent has a coast line of just 30,000 km. of which 44% is ice shelf margin, 38% ice wall, 13% glacier snouts and only 5% rock beaches. Antarctic beaches are different from temperate latitude beaches because of seasonal effects of ice and land on sea. Beaches are free from pebbles as these are used for nesting purpose by Penguins.

The Antarctic continental shelf area is about 4 million sq. km. of which 60% is ice free and having mean depth of 350 mt. below sea level. The continental shelf around East Antarctica is relatively narrow. The only areas of significantly developed continental shelf are in the Ross and Weddell Sea embayments and the little investigated regions of the Bellingshausen and Amundson Sea off West Antarctica.

Antarctica is drained by vast system of glaciers and ice streams. The world's largest glaciers are located here, Lambert Glacier which is 40 km wide and cover one

million of sq. km. is the largest.

It is believed that Antarctica was at one time a part of an ancient, considerably larger landmass which has been named as Gondwanaland. The super continent began breaking up during the Triassic period (205-240 million years back) and its several segments are today known as South America, Africa, India, Australia and Antarctica. It has been based not only on geological continuity but has been also based on fossil findings. Apart from this, the shape of these segmented parts are such that they fit into each other to form a large landmass.

As only one percent of the land area of Antarctica is exposed, much of the data relating to the structure and the tectonic is gathered by geophysical methods.[20]

After allowing for full isostatic recovery of the crust from the weight of ice sheet, the sub-glacial contours show Greater Antarctica as a single unit and lesser Antarctica as made up of several major blocks separated by bedrock depressions as much as 2000 mt. below sea level. Data show that Antarctica's major bedrock depressions are also sedimentary basins. Sea around lesser Antarctica and basins in Wilkes Land are having sedimentary strata.[21]

Under the Greater Antarctica Shield the mean value of the thickness is about 40-45 km typical of Archean

Shields elsewhere in the world. Greater thickness exceeding 50 km. occurs in several places near the Transantarctic Mountains and in Dronning Maud Land. In Lesser Antarctic the thickest crust is about 40 km, and lies under the Antarctic Peninsula block, the Ellsworth Mountains and Marie Byrd Land. Crust of about 25 km. thickness is around the Ellsworth Mountain along the margins of Transantarctic Mountains and in the Lambert Glacier in Greater Antarctica.

No large earthquake have been recorded in the Antarctic Plate and the seismicity is lowest of any other continent. Only three earthquakes of magnitude greater than 4 on the Richter Scale have been traced to Antarctic epicentres. They all have been very close to glacier outlets hence it is difficult to say whether they are due to endogenic forces or glacial movements.

Greater or East Antarctica is the area bounded roughly by the longitudes 30^{o} N and 160^{o}E and lying mainly in the eastern hemisphere, where as Lesser or West Antarctica lies entirely in the western hemisphere and includes the Antarctic Peninsulas. Greater Antarctica consists largely of a Precambrian Shield with a younger mobile belt along the Transantarctic Mountains. It was last affected by major deformation and metamorphism about 500 million year age. In contrast, Lesser Antarctica shows a history of tectonic activity along the margins of the Pacific Ocean throughout the Phanerozoic. The nature of the

boundary between these two geological remains is one of the major puzzles of Antarctic geology[22] and it is of the global significance for understanding the Mesozoic and Cenozoic plate interaction.

Climate

Location at the pole where angle of incidence of solar radiation is very low and remain absent for 6 months, permanent presence of ice, and continental nature seems to have been the major factors controlling the climate of the Antarctica. Since the IGY (1957-58) scientist have collected lot of information on meteorology, climatology and glaciology to develop an understanding of the Antarctic climate.

The climate of Antarctica is a continental one and is far more severe than that of the Arctic. The height of the continent and distance from sea creates continental climate and account for the severe cold in the winter. In summer (January) average temperature ranges from $0^{o}C$ on the coast to $-30^{o}C$ inland; winter average temperature run from $-20^{o}C$ on the coast to $-65^{o}C$ or less inland. Absolute winter lows of $-80^{o}C$ and below are recorded in the continental interior.[23] The warmest part of Antarctica is along the coast of the peninsula which is also called "the bannana belt" because of mild climate.

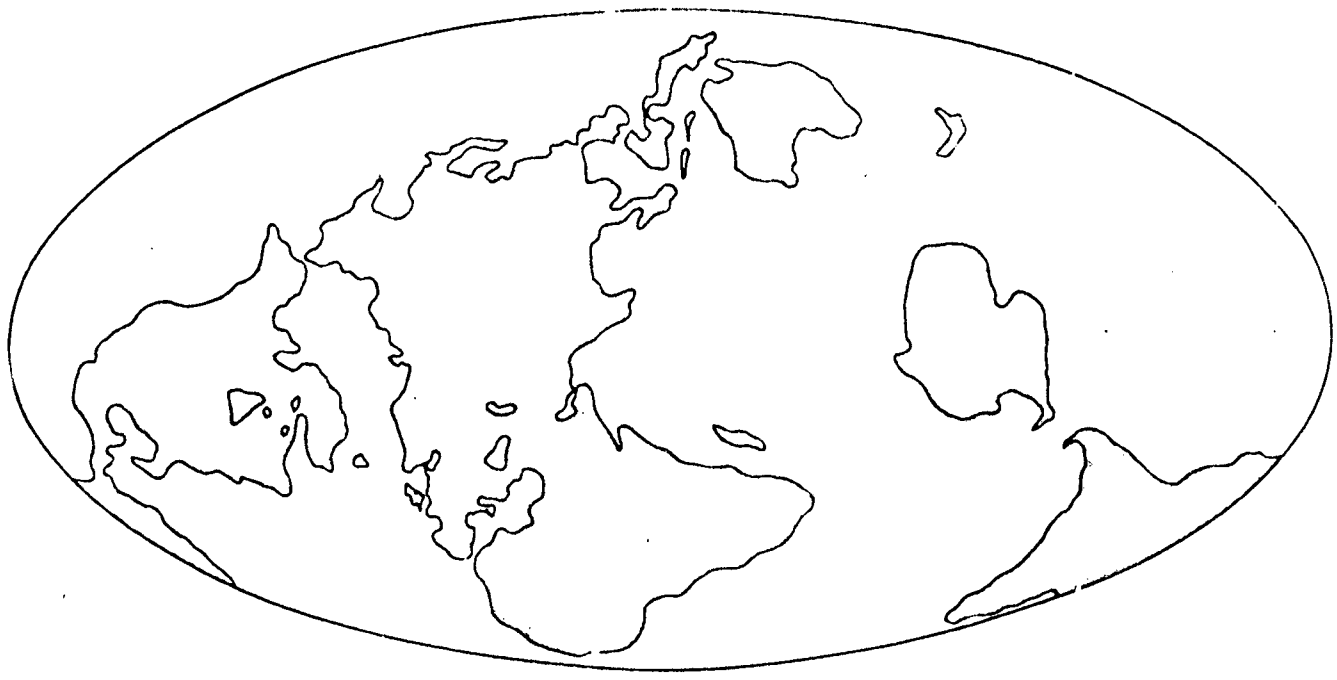


Figure The world viewed from the poles clearly showing the different relationships between land and sea in the Arctic and Antarctic.

Precipitation is very low especially in the interior parts because of cold dry wind blowing all the time. Averages precipitation is about one inch water equivalent a year. Maximum precipitation is obviously along the coast and in the peninsula. The Antarctic blizzards do not bring much fresh precipitation but rather are the results of the blowing of old snow by the fierce Antarctic winds.

Solar radiation at the Antarctic is not less than what is received at equator because of clear sky, elevation and thin atmosphere, but it does not produce same amount of heat. As the albedo of ice is very high, whatever radiation is received is reflected back into the atmosphere and the Antarctic remains cold. High elevation and high albedo together, in Antarctica, produce negative annual heat budget which has made Antarctica a true major global heat sink.

Low temperature produces relatively high barometric pressure (1030-40 mb.) in Antarctica which develops into stable inversion in lower few hundred meters of the atmosphere. This inversion is often 10^{o}-15^{o} deep and favour development of Katabatic air drainage.[24] Depressions are occasional in Antarctica. In valleys winds are controlled by local topography. Onshore winds from the East dominate during summer with average speed of 10-15 km/hr. In winter, offshore winds, originating from polar plateau, sweep through the valleys. Blizzards are very common here

which reduces visibility to zero when filled with powdery snow.

There are three water masses around Antarctica. Antarctic surface water (100-150 mt thick) having temperature nearly at freezing point, found up to Antarctic convergence zone. Below this is a zone of warm deep water at $0.5\text{-}2^{o}C^{25}$ which is in continuation of the deep ocean water of Atlantic, Pacific and the Indian Ocean. This is followed by a layer of cold Antarctic bottom water which flows down the Antarctic continental shelf.

Water around Antarctica move in a clock-wise direction following the general wind direction and get being affected by corriolis force. About one third of the Antarctic coastal line is comprised of ice shelves and floating ice, fed by glaciers emanating from the vast polar plateau and by snow-fall upon their surface. Ross ice shelf is the largest, covering around 250,000 sq. km.

Extreme climate, familiar geology and almost vergin environment has made Antarctica a unique continent. This is a natural laboratory for scientific research. It has been threatened by its own unique resources, many of which are still to be discovered. Thus this unique continent must be saved, if not for scientific research, may be for its positive impact on the environment of rest of the world, and its uniqueness for being useful as a scientific laboratory.

At present geographical factors have not allowed man to overpower it but technological ground has been already prepared to launch occupation of this last wilderness.

RESOURCE BASE

The present rate of economic development cannot be emagined without the exploitation of natural resources. It has become the basis of every human life and human activity. Every effort has been made by the human civilization, right from the early days, to look for new resources and new areas of getting them. In this age of resource crunch, resources which were earlier thought to be unimportant, uneconomic and unexploitable are being exploited now. As a result, the Antarctic is also being visualised as a potential source of resources.

About the extent of resources available in Antarctica, not much could be said with certainty. Biological resources has been found in the Southern Ocean but it is almost absent on the continent. But because of its primitive ecology, having very short food web, exploitation of Antarctic living resources will be how far reasonable, can not be said with certainty. On the other hand, facts about mineral resource presence in Antarctica is highly controversial at the present state of knowledge. In the following section detailed study of living and non living resources has been made.

Living Resources

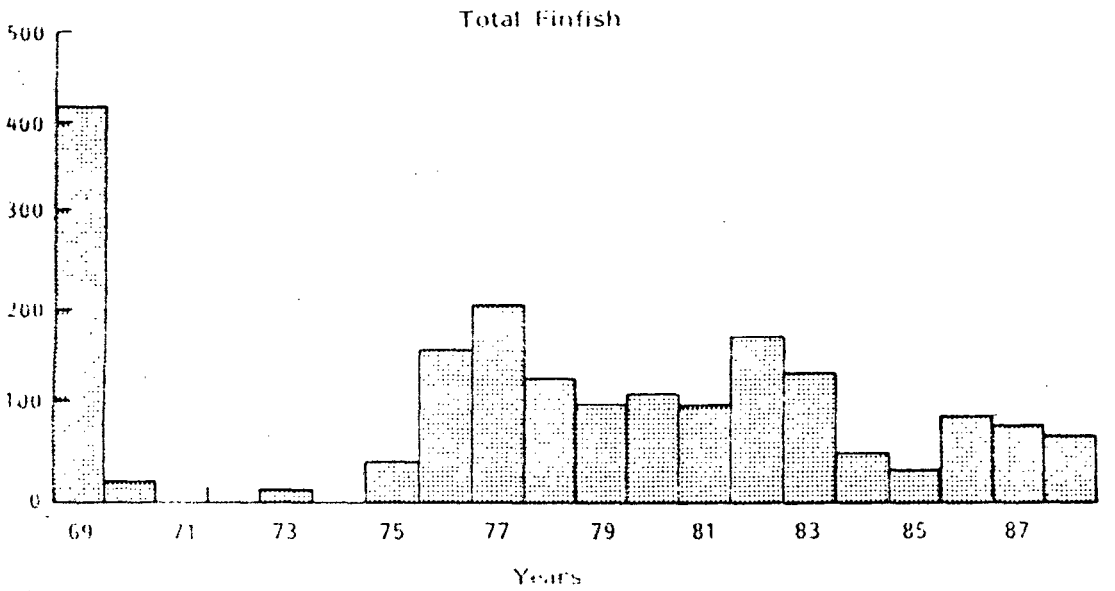
Antarctic environment is very rich in life in comparison to its harsh climate. Apart from bacteria and virus, Antarctica is known to have phytoplankton, krill, zooplankton, whales, seals, penguins, birch, etc. Estimates of pelagic primary productivity in Southern Ocean is about 10,000 million tonnes of wet weight per year,[26] which is comparable to other oceans. Not all parts of Southern Ocean is rich in productivity. High productive areas are located generally in inshore waters, particularly in the Scotia Arc and Weddell Sea region. But at certain times, Southern Ocean support huge population of phytoplankton, herbivorous zooplankton and predators, including seals, whales, and sea-birds. Because of very short and direct food chain large biomass is stored in high trophic levels which make some of the animal species very rich as sources of energy (e.g. krills for protein).

The phytoplankton is a primary producer of food for many small marine animals that make up the zooplankton. Its growth and presence in the Antarctic water is the basis of all higher level species. Its productivity is determined by the conditions of light, temperature, macronutrients, micronutrients, water column stability, grazing mostly by copepods, sinking, dispersal by mixing and advection, zooplankton grazing, natural mortality and breakdown within the surface layers.[27] Seasonal changes in these, which has

not been well documented so far, would not only help in the study of phytoplankton but will give vital clues in understanding growth process of other species dependendent on it. So far phytoplankton is not seen as a commercial exploitable living resource.

Krill (zooplankton), the shrimp - like, 5 to 7 cm. tiny swimming crustacean called Euphauria Superba, is the main consumer of phytoplanktons, mostly diatoms, and algae. Krill has been found as a rich source of protein, even more than fish. It has been estimated that because of reduced number of whales and seals who are mainly responsible for consumption of krill, there exists surplus of krill in the Antarctic water.[28] The amount to krill that could be harvested on a sustainable basis ranges from 70 to 150 million metric tons.

Inspite of very small size of krill and inhospitable climate it is not very difficult to catch krill, as they generally live and travel in dense swarms, which can even be spotted from satellites. The first fishing expedition in search of krill was made in early 1960 by Japan and Soviet Union.[29] Harvesting experience of Japan and Soviet Union in whaling became handy and they developed required method for harvesting the Krill. The exploratory and experimental phase continued through the 1960s with total annual catch of less than 1000 tons each year. Now many more countries have joined in the moderate exploration



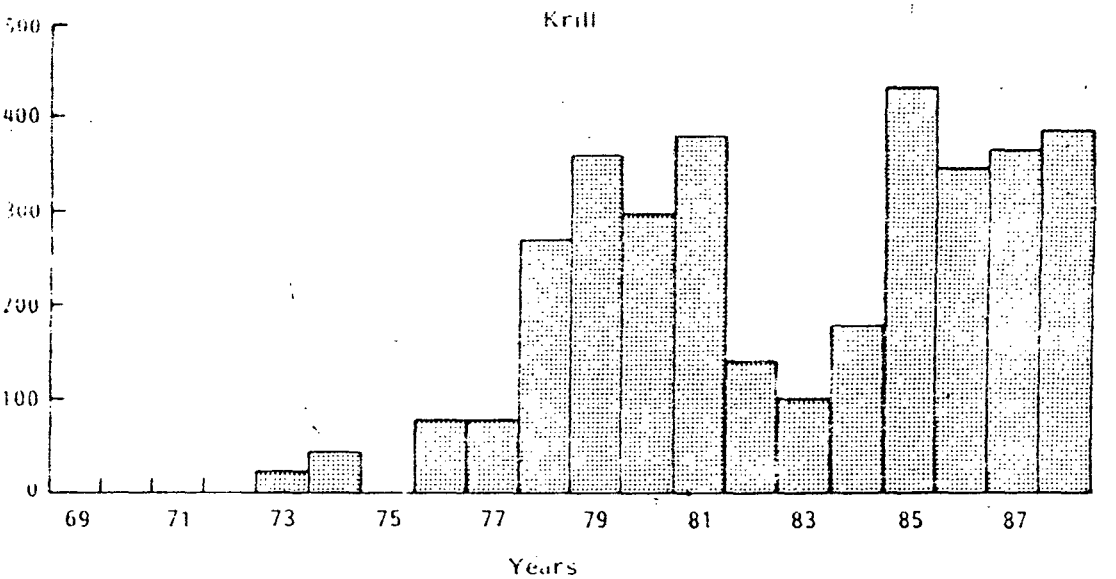


Figure 8. Krill and finfish catches for the Atlantic sector of the Southern Ocean from 1969.

of krill like Chile (in 1974-75); Poland (1975-76); Norway & Taiwan (1976-77); Germany and Bulgaria (1977-78); South Korea and Argentina (1978-79).

Since 1970s there is steady increase in krill catch, the peak figure of 42,000 tons in 1979-80 and 528,000 tons in 1981-82 were achieved. After this there has been steady decline in total reported catch.

In terms of variety, Antarctica is not so rich and most of Antarctic fishes are of cod species. Only about 150 species of fish, 60 pelagic and 90 benthic, have been recorded south of the Antarctic Convergence and of these, the dominant group is the Notothenii. Pelagic fishes comprised of five families, that make up nearly 3/4th of all coastal fish species.[30] The great majority of species of economic importance are demerarsal species. Some of fin fish species that have been commercially exploited are Antarctic cod (Notholeniidze), Antarctic Ice fish, Palagonian Tooth fish, Palagonin Hake etc. Soviet Union, Poland, Germany, Korea, Japan and Bulgaria are some of the States that have been engaged in commercial fishing in Antarctic water.[31]

43 species of birds are known in Antarctica and most of them are sea-birds.[32] Of them, Penguins are most important comprising 31% of the stocks of birds and 91% of the biomass in Southern Ocean. Seven species of penguins - Emperor, King, Adelie, Gentoo, Chinstrap, Rockhopper, Macaroni - are known to be found in Antarctica. Some of the

Total Population of Some Bird Species

Species	No. of Species	Breeding Population (millions of pairs)	Breeding Distribution
Penguins	7	10	Throughout
Albatrosses	6	0.1	Sub-Antarctic
Petrels	19	100	Throughout
Storm petrels	3	10	Throughout
Diving petrels	2	1-10	Sub-Antarctic
Shags	1-2	0.01-0.1	Sub-Antarctic Peninsula
Gulls, skuas	3	0.01-0.1	Throughout
Terns	2	0.01-0.1	Sub-Antarctic

Courtesy : IUCN

other bird species found in Antarctica are albatrosses, petrels, skuas, shags, gulls, cormorants and terns.[33]

Five species of true or earless Seals are known to be found in Antarctica - Weddell, Ross, Leopard, Crabeata and Elephant Seal. Commercial exploitation of Seals started in late eighteenth century when James Cook gave the detailed account about them.[34] Fur Seals was the first to be exploited. Rate of exploitation was so high that within few years stock of Fur Seals diminished to a level where expedition for fur seals became uneconomical. Fur Seal population reduced to such a low after 1870s that there has been no commercial catch after that.[35] After Fur Seals it was the turn of Elephant Seals, which was harvested for its oil. But again, the uncontrolled harvesting of this made the industry very soon uneconomical.

The whales could be divided into two-baleen whales and toothed whale. The former consume krill and latter feed on larger species like fish and squids. Sperm whale belongs to toothed species. Antarctic water has six species of baleen whales - Blue, Fin, Southern right, Sei, Minke, and Humpback - of them Blue Whale is considered the largest mammal living on earth.

Commercial harvesting of whales started from Humpback whales, but blue whale were the first species to be taken in great quantity. From a peak catch of around 30,000

whales in 1930-31 the catch declined to less than 10,000 whales per year. As the population of Blue Whales declined, attention turned to the fin whales and formed the bulk of the catches until the early 1960s by which time the stock could no longer sustain the fishing pressure. Attention then turned to Sei and more recently to Minke Whales, the latter being the only baleen whale species currently exploited.[36]

Thus there is promising living resources in Antarctica which could be utilized for the benefit of mankind especially for needy Third World. But commercial harvesting should be in planned way without affecting the ecological balance. This require knowledge about stock of different species, growing period of them and interrelationship between species, which could be utilized to prepare mathematical models of sustainable yield of different living resources.

Non-Living Resources

Antarctica is considered as the last potential source of non-living resources. Usually four types of non-living resources are identified in Antarctica, that is, minerals, hydro-carbon, fresh water and the land resources.

i) Minerals :

Besides some circumstantial evidences of minerals in Antarctica that has been found in exploratory scientific experiments, the hopes of Antarctica as a source of rich

mineral resources has been based on "Continental Drift Theory". The theory suggests that mineral reserves in South America, Africa, India, Australia and New Zealand that were once adjacent to Antarctica may have their counterpart reserves in Antarctica.[37] For example in South Africa, the Proterozoic Witweetersrand System contain gold and uranium, while chromium, nickel, copper, platinum, iron, and vanadium occur in the lower Proterozoic Bushveld complex, a layered gabbroic intrusion.[38] Iron and manganese are found in Indian rocks of Archean and proterozoic age. The Australian shield contains nickel, gold and iron in Archaean rocks and iron, copper, lead, zinc, and silver in Proterozic deposits.[39]

On the basis of analogies three metallogenic provinces have been recogniced in Antarctica.[40] The Greater Antarctic Iron Metallogenic Province which may have extensive iron mineral over most exposed part of Greater Antarctica from Willkes Land to Dronning Maud Land. Transantarctic Metallogenic Province which was formed in two epochs - early Palaeozoic and the Jurassic are expected to have deposits of metals like chromium, nickel, copper, vanadium, titanium, and particularly the platinum group elements (PPGE). The third province is Andean Metallogenic Province is of Mesozoic and Cenozoic age which stretches from South America through the Antarctic Peninsula and Ellsworth Land to Marie Byrd Land. Minerals like copper and iron are most important here but also expected to have

molybdenum, lead, zinc, silver etc. in small quantity.

The greatest likelihood of finding a commercial mineral deposit in Antarctica is thought to be in Antarctica Peninsula or Eastern Elleworth Land. In Greater Antarctica, analogies suggest that Wilkes Land may contain nickel, and gold. Dronning Maud Land contain gold, uranium, and even diamond bearing, kimberlite pipes and that the Transantarctic Mountains may contain deposits of copper and related metals. Structural similarities between East Antarctica Shield and parts of Australia and South Africa suggest possible occurance of uranium.[41] Some of the exposed rocks have shown presence of radiation suggesting presence of uranium etc.

Possibilities of non-metallic minerals like mica, graphite, fluorite and some gem stones may also be there for commercial exploitation. Similarly deposits of sands and gravels are also there which could be of interest, if they were close to industrial sites.

ii) Hydrocarbons

There is no direct trace of hydrocarbons except that of some amount of methane from the holes drilled in the Ross Sea by Glomar Challenger in late 1972 and early 1973 and traces of thermogenic hydrocarbons in Bransfield Strait. There has been estimates of 45 billion barrels of oil and 115 trillion cubic feet of natural gas. But because of the

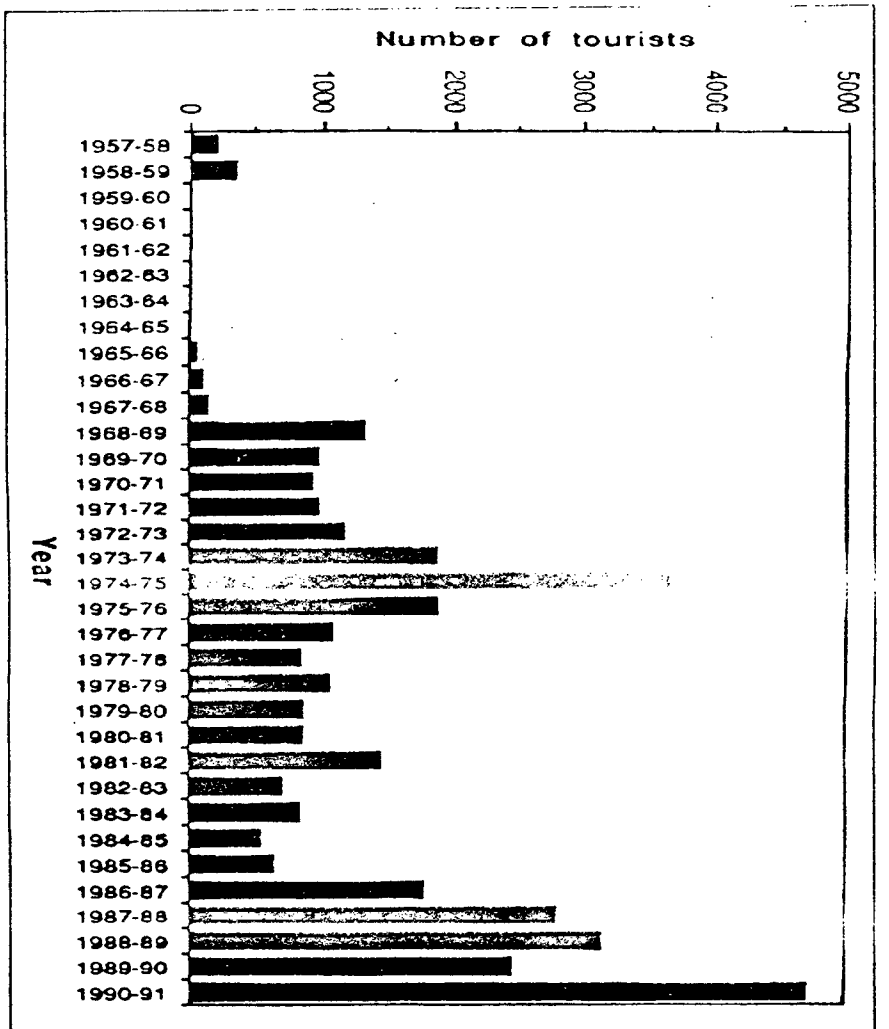
harsh environment super giant fields (greater than two billion barrels) may be economical for exploitation. And the expected areas that may be economical are continental margins having unmetamorphosed sedimentsry basins bordering Ross Seas in Lesser Antarctics ans Amery Ice Shelf in Greater Antarctica.

iii) Fress Water

Antarctic is the largest source of fresh water. By volume Antarctica has about 70% of the fresh water stock, which is locked in ice shelves. This vast reserve of fresh water could meet the fresh water needs of human civilization in future. At the moment, standing ice on the continent might be difficult to use, but icebergs could be utilized for drinking and irrigation purpose. Some cost and benefit analysis for the use of icebergs in the Middle Eastern Nations and Australian areas have been made which look economical.

iv) **Land**

Antarctica's vast extent of frozen surface is another non-living resource which could be put into different uses. At the present level of technological advancement large residential or commercial habitation on this ice may not look economical but in future it may prove otherwise. Some indication on this line are already underway.



Estimated number of seaborne tourists in Antarctica from austral summer season 1957-58 through 1990-91 inclusive

Courtesy : IUCN

The vast resources of Antarctica, identified and discussed in above section does seen promising and it will give some respite from the general scarcity of resources, when exploited. But before going for large scale exploitation of Antarctic resources, more understanding of the unique ecological balance of Antarctica and the surrounding water is required. And above all, some of the other basic questions would have to be answered. Who will exploit finally these resources? Who will get the real benefits? If the benefits have to be shared it would be on what basis? And so on...

GEOPOLITICAL IMPORTANCE OF ANTARCTIC RESOURCE DEVELOPMENT FOR THE THIRD WORLD

Antarctica has great potential of resource development. We have seen that the Southern Oceans surrounding Antarctica is full of marine living resources and as the food web is short, large amount of energy is stored in higher level of species, which could solve the food problems of many states particularly the Third World ones. A similar prospect of high potential for non-living resources of Antarctica has been already identified. But exploitation of these resources will not be free from its negative impacts, not only on fragile ecological balance of Antarctica but also on geopolitical balance in international politics.

Harvesting of non-living resources will have adverse effects on rest of the living community of Antarctica. So, before going for the commercial exploitation, a careful study of inter-linkages is required, based on scientific models. Our past harvesting activities in the Antarctic region has disturbed the balance as some of the species of seals and whales are near extinction. This loss of balance has made some of the species in surplus which could be exploited without affecting the recovery process. Once the balance is restored, variety of marine living resources could be exploited in a coordinated way without making any species in surplus or in short supply. For this type of balanced economic activity multi-facet mathematical models are required. Possible presence of vast mineral resources has been predicted earlier in Antarctica, hence it is seen as the last source of these non-living resources after deep sea-bed on this earth. The development of these resources may disturb the ecosystem of Antarctica. Mining, below 2000 metre thick compact ice will not only disturb the topography of the area but also disturb the geophysics of the area and bring in some new materials in contact with Antarctic fragile environment. There are many problems associated with the exploitation of hydrocarbon which may arise because of cost, accidents due to manual faults, or natural disasters, and so on.

Apart from these environmental and economic cost of developing these resources there are legal problems. In

the past four decades many legal regimes have been developed which did try to conserve the Antarctic environment, prohibiting any commercial exploitation of mineral resources in Antarctica. However it cannot be taken as full proof measure to save the Antarctic environment.

The geopolitical realities that merge and emerge from the changing features of the Antarctica as modified by time and technology are becoming far more complex and compelling than over before, especially in reference to the Third World. A vast majority of Third World states are thickly populated and together account for the largest concentration of population in the world. Chronic poverty has persisted the stark reality here. The rate of growth of population in these countries is the highest. These fast multiplying people are desperate for rapid economic development. Antarctica has been seen as the possible option for both as a protein source and mineral availability. Presence of resources in Antarctica could be utilized by the Third World States. This requires development and application of advance technology which is not possible for one state to do independently. Hence cooperation not only among developing states but also among developed and developing states is required. Mandatory transfer of technology under the auspices of UN is one attractive way of doing the same.

Inspite of all these compelling needs for rapid development and cooperation these states are investing their limited resources in acquiring sophisticated weapons, which are quite unlikely to find use except in the rare, unfortunate event of a domestic uprising. This militarization has been initiated for the purpose of security which has been aired by developed states.

In the present time when physical occupation is not considered feasible and attractive, the whole concept of security as held today must be jettisoned and replaced by concern in regard to political and economic control, dominance or exploitation by the foreign powers, none of which admits of a military handling. However, today the threat to the integrity of the Third World states are not so much from a war with outsiders but it is from within, from the deprivation and frustration of their own people.

Thus it seems that the Third World states have been missled to superficial problems and are not even enough attention regarding their basic economic compulsions and are always discouraged to have multidimentional cooperation. The reason could be found in the vested interests of developed states, which may range from the fear of being put in numerical minority where decisions are taken by majority vote or being faced by the shortage of strategic resources, in case developing states demand their due share.

Inspite of all these hindrances the Third World states have organised themselves to get concessions from developed states. In case of Antarctica, the Third World is looking at it as possible source of resources, but because of the lack of technology they cannot exploit it, and if developed states starts exploitation now, the Third World has no possibility of getting any thing. However it is also not easy for developed countries, to exploit resources in Antarctica. They have to settle the issue of territorial claims (made by seven states) before going for mineral resource exploitation and even for marine living resources also in the light of creation of Exclusive Economic Zone under UNCLOS II agreements. In fact, failure of claimant and non-claimant states to arrive at any solution regarding territorial claim resulted in the evolution of Antarctic Treaty (*1959). The joining now by other consultative members have made the issue more complex. On one hand claimant and non-claimant members of treaty system are unable to solve issues relating to claims to territory which is at the base of mineral resources exploitation, on the other hand the Third World states are advocating use of Antarctic resources for the benefit of whole mankind, under the auspices of international authority of UN, just like other global commons. It could be the last thing that developed state would agree, i.e. to share their resources and know-how with developing states, which is a precondition under the Third World approach. In this conflicting

situation the 26 Consultative Members of Antarctic Treaty have decided to postpone to exploitation of mineral resources for next fifty years, in favour of the wishes of the active environmentalist groups.

Now the question which arises is how far claimant and other developing states could neglect the demands of Third World states in case of resources of Antarctica, especially when more and more Third World states are acceding to the Antarctic Treaty System narrowing down the distinction between Third World and non-claimant states of Antarctic Treaty regarding having control over the Antarctic activity.

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CHAPTER II

ANTARCTIC TREATY AND EMERGING LEGAL REGIMES

Antarctica has been always a matter conflict for U.K., New Zealand, France, Australia, Norway, Argentina and Chile - who have made territorial claims of Antarctica of which claims of U.K., Argentina and Chile overlaps. Except Argentina and Chile, other five claimant states recognise each others claims but rest of the states of the World do not recognise any of the territorial claims made.

It was just after the end of Second World War when states active in Antarctica some how arrived at an agreement at the end of International Geophysical Year 1957-58, to keep Antarctica away from these military developments. They agreed for declaring it as a first nuclear free and demilitarized zone of the world. This agreement is today know as Antarctic Treaty. But this was not the end of the problems related with Antarctica. Technological advancement leading to greater exploitation of living marine resource of Antarctica and possibilities of presence of mineral resources (including hydrocarbons and nuclear fuels), and development in international legal affairs further brought the Antarctica in the perview of problems and conflicts. Different legal regimes have been developed to keep Antarctica free from all tensions. These regimes have been successful in preserving peace, and environmental balance in this last space, virgin on earth.

DEVELOPMENT OF ANTARCTIC TREATY

The Antarctica due to its potential resources has become a bone of contention particularly for states active in Antarctica. Many attempts were made to arrive at cooperative solution of the unsolved Antarctic issues.

One of the earliest attempts to unite polar activities was made by Australian Explorer Kar Weyprecht as early as 1875[1]. Celebration of First International Polar Year in 1882-83 was another effort in, this direction when twelve states established fourteen bases in polar regions to make coordinated observation of the climate and earth's magnetism. Second International Polar Year was held in 1932-33. The year 1957-58 was chosen for the Third International Polar Year which was the period of maximum sun spot activity. However under the auspices of the International Council of Scientific Union (ICSU) the Third Polar Year was formalised as the International Geophysical Year (IGY).

International Geophysical Year (IGY) started, from 1st July 1957 for 18 months period, ending on 31st December 1958, in which 12 States (including USA, USSR, Britain, New Zealand, Australia, France, Norway, Argentina, Chile, Japan, Belgium and South Africa) participated and operated 60 stations in the Antarctic region out of which 48 were actually on the continent.

The IGY experiments proved very successful. An important outcome of IGY was that scientific activities had been institutionalised on a permanent basis which ensured participation of the scientific world in Antarctica. Another achievement was that of scientists belonging to different groups (blocks) who were participating jointly. Besides, this large scale participation of both USA and USSR gave Antarctica unitary outlook which now had to be considered geopolitically as a whole[2]. Keeping in mind the Antarctica's sovereignty dispute and the cold war implications, the IGY was a remarkable success. It does assist in generating cooperative political will among the conflicting states.

In this precedence in April 1958, USA convened a conference to discuss the future of Antarctica and subsequently on May 2nd 1958 USA proposed to IGY participants that they should join in a treaty designed to preserve the Continent as "international laboratory" for scientific research and ensure that it should be used only for peaceful purposes[3]. There was general desire to avoid confrontation, while at the same time guaranteeing and safeguarding one's own strategic position[4]. A preliminary conference of working group met in June 1958 in Washington and after sixty meetings the draft treaty was prepared. The Antarctic Treaty was signed finally on 1st December, 1959. On 23rd June 1961 the Treaty was ratified and it came into

Table The Antarctic Treaty system: membership

Consultative parties (ATCPs)—original signatories and states adjudged to perform 'substantial research activity' in Antarctica entitled to a decision-making role at Antarctic Treaty Consultative Meetings.

1959–61	Argentina	Claimant states (7)	Original treaty consultative parties (12)	Consultative parties (25)
	Australia			
	Chile			
	France			
	New Zealand			
	Norway			
	United Kingdom			
	Belgium			
	Japan			
	South Africa			
	USA			
	USSR			
1961	Poland	Non-claimaint states (18)	1977	
1979	Federal Republic of Germany		1981	
1975	Brazil		1983	
1983	India		1983	
1983	China		1985	Additional consultative parties (13)
1980	Uruguay		1985	
1974	German Democratic Republic		1987	
1981	Italy		1987	
1982	Spain		1988	
1984	Sweden		1988	
1984	Finland		1989	
1981	Peru		1989	
1986	South Korea		1989	

Non-consultative parties (14)—accession involves a recognition of the validity of the Antarctic Treaty's principles and entitles a party to observer status at meetings. It is often used as a stepping-stone towards ATCP status.

1962	Czechoslovakia	Non-consultative parties (14)
1965	Denmark	
1967	Netherlands	
1971	Romania	
1978	Bulgaria	
1981	Papua New Guinea	
1984	Hungary	
1984	Cuba	
1987	Greece	
1987	North Korea	
1987	Austria	
1987	Ecuador	
1988	Canada	
1989	Colombia	

Total number of parties: 39

Note: The original 12 parties signed and ratified the treaty during 1959–61. Other dates in the left-hand column indicate the year of accession to the treaty, while the middle column records the year of admission to ATCP status.

force. In past four decades of Antarctic Treaty, number of contracting parties have increased to 39 of which 26 have been given Consultative Party status.

SALIENT FEATURES OF ANTARCTIC TREATY

The Antarctic Treaty has established three goals for itself - demilitarization[5], scientific cooperation and environmental preservation[6]. All scientific investigations in Antarctica are free and the contracting party agree to cooperate[7] to achieve this objective through the exchange of scientific information, personnel and observation[8]. Antarctica is the first nuclear weapon free zone in the world. All nuclear explosions are prohibited and radioactive waste material is banned to be disposed off within the Treaty area[9].

The cornerstone of the Antarctic Treaty is however, its Article IV. In the absence of this article, the Treaty would not have come into existence. Through this treaty members not only secure their main goals, but at the same time they have not jeopardise their individual views on the question of territorial sovereignty. The Article IV preserve the conflicting position of claimant states, potential claimants, and non claimants.

The Treaty has identified Antarctica as the area south of 60^{0}S parallel, where Treaty provisions are applicable[10]. The Treaty has two tier structure for its

members. All the decision making powers are given to the Consultative Parties (ATCPs) which are the original members and such other members who have after signing the Treaty demonstrated enough interest in Antarctic research. This is meant to prevent any country to influence decision making process without having anything at stake in Antarctica. But it raises questions of discrimination as the acceding members to Antarctic Treaty have the same obligation as the ATCP, but they do not have the same function.

The Treaty does not constitute an international organisation with international personality in any accepted sense. It has no standing secretariate and there is no central arrangement for circulation of information or proposed measures. Rather Treaty is decentralised and functionally oriented. The Antarctic Treaty simply bind its acceding members to meet at suitable intervals and places, for purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica. The Consultative Parties generally meet after every two years at a conference hosted and organised by one of the Parties. At these meetings decisions are taken on a consensus basis. By 1990 about 190 recommendations at various consultative meetings has been accepted[11].

There are also provisions for modifications and amendments in the original Treaty. After the expiry of thirty yeas from the date of entry into force any of the

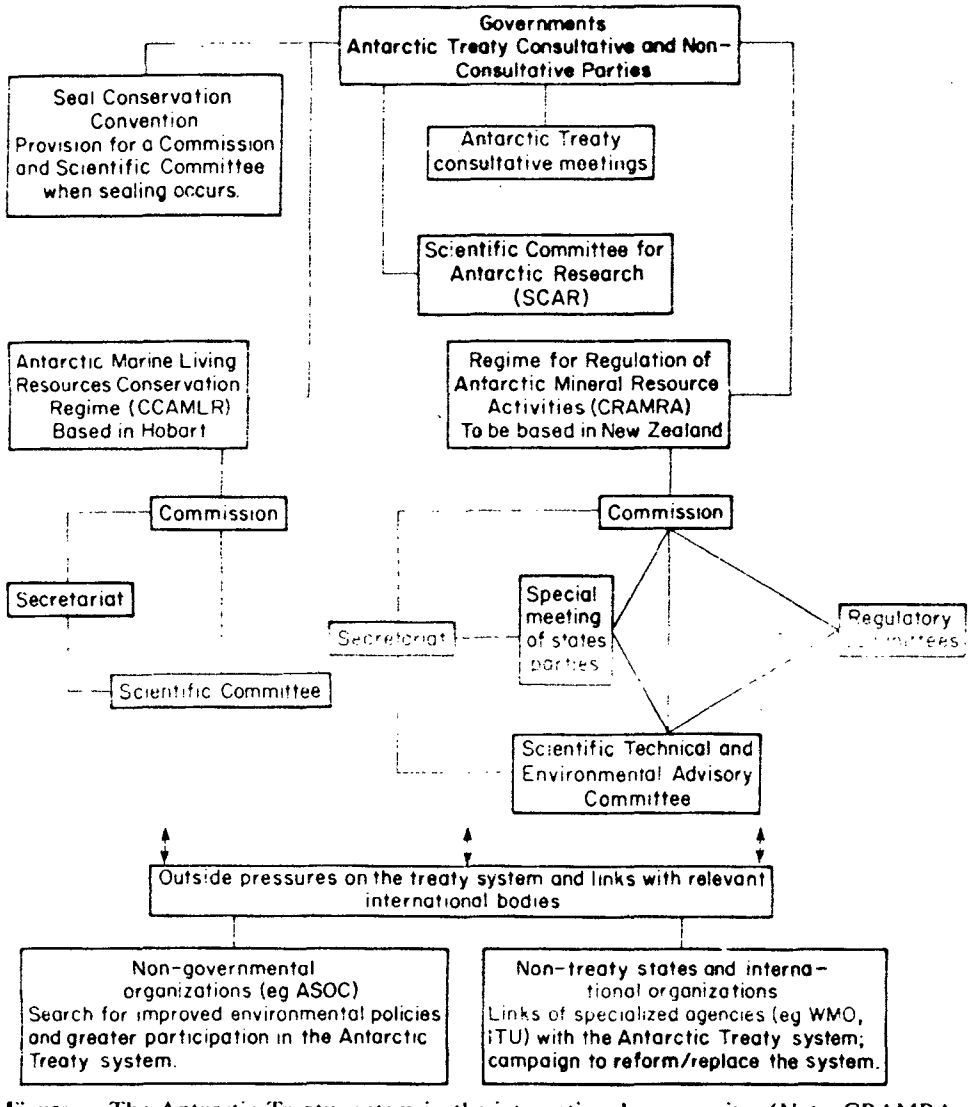

Figure The Antarctic Treaty system in the international community. (*Note*: CRAMRA, though opened for signature during 1988–89, has yet to come into effect. Indeed, the opposition of Australia and France renders it doubtful whether it will ever become effective.)

ATCP may ask for the review of the Treaty, as is possible from 1991 onwards.

Some of the other advantages of the Antarctica Treaty are like, it is open to accession by any Member Sate of the United Nations, it may continue for unlimited duration, it is based on the Charter of United Nation, it excludes Antarctica from any arms race, it encourages scientific cooperation and does help to protect natural environment, and finally it has averted international strife and conflicts over Antarctica[12] successfully over last 31 years now.

Thus the Antarctic Treaty has tried to cover variety of issues in its just fourteen Articles. Inspite of many shortcomings, like not covering all activities in Antarctica,[13] limited participation and secretive attitude treaty has worked effectively till now in maintaining peace and cooperation in Antarctica, hence fulfilling its basic objectives.

CONSERVATION OF ANTARCTIC FAUNA AND FLORA

As it has been noted earlier that Antarctic fauna and flora are susceptible to extermination. For maintaining ecological balance in the continent conservation of all species of Antarctica is needed. In Antarctic Treaty not much was provided for this. So ATCP in 1964 adopted as a recommendation under Article IX of the Treaty fitted "Agreed

Measures for the Conservation of Antarctic Fauna and Flora."[14] The Agreed Measures entered into effect upon approval by the Consultative Parties. Any other contracting Party to the Antarctica Treaty may adhere to the Agreed Measures[15].

Agreed Measures have considered the entire Treaty areas as a "Special Conservation Area"[16]. It has prohibited killings, wounding, capturing, or molesting of any native mammal or bird, except in accordance with permit.[17] It has also asked to minimize interference with their normal living conditions.[18] Introduction of non-indigenous species to Antarctica is prohibited [19] according to this agreement.

A unique feature of the Agreed Measure is the establishment of "Specially Protected Areas" (SPA). Under this, areas of outstanding scientific interests are accorded special protection for preservation of their unique natural ecological system.[20] As some of the areas in Antarctica require protection for reasons other than conservation of fauna and flora. So the "Sites of Special Scientific Interest"(SSSI) were introduced in 1975, to secure long term protection from harmful interference with exceptional scientific research conducted in such areas.

Realising that Antarctic Treaty and national rules regulating access to Antarctic stations were inadequate, the Consultative Parties adopted in 1970s a series of recommendations dealing with the problem.[21] Tourists and

non-governmental expeditions have access to stations only with permission of the government maintaining that station. But their entry is restricted in SPAs. They are allowed only to land within "Areas of Special Tourist Interest", which is already designated by the Consultative Parties.

Thus Antarctic Treaty and its various recommendations through Consultative Parties have tried to construct a legal regime to save Antarctic fauna and flora from all possible dangers.

SEAL CONVENTION

"Measures of Antarctic Treaty" and "Agreed Measures for Faun and Flora" were found insufficient to protect seals. As Treaty asks for not infringing upon the sealing and fishing rights of the Parties in Antarctic waters.[22] On the other hand Agreed Measures according to one restrictive interpretation the conservation area includes the continental shelf and ice shelf[23] but not the sea or the pack ice where 80 per cent of seals live. Thus due to lack of enough provision regulating seals exploitations in Antarctic Treaty and Agreed Measures the whole issue was addressed outside of the Treaty and Agreed Measures the whole issue was addressed outside of the Treaty framework in a special convention, known as the "Convention for the Conservation of the Antarctic Seals" which was adopted at the London Conference in 1972.[24] This convention

governs the catching and killing of southern elephant, leopard, weddell, crabeater, ross and other fur seals in the region south of 60^0S latitude.[26] It lists measures concerning permissible catch protected species, sealing seasons, sealing zones and sealing methods. But it does not allocate national catches, and the enforcement is left to flag states. There is not regular meeting of the Parties but a review of operations is held after every five years.[27]

MARINE LIVING RESOURCE CONVENTION

Commercial exploitation of Antarctic marine living resources, especially krill led to the realization that unregulated exploitation of these resources might lead to over harvesting, which will unbalance the Antarctic marine ecosystem. This encouraged Consultative Parties in 8th Consultative Party Meeting in 1975 to take up the subject of marine living resources. As a result the Convention on the Conservation of Antarctic Marine Living Resource (CCAMLR) was adopted at Canberra in May 1980 which entered into force on April, 1982.

The CCAMLR can be characterized as a landmark[29] in international law because of its ecosystem conservation standard and the fact that it was negotiated prior to heavy commercial pressure on the fishery.[30] Because of clash of interest between claimant and non-claimant and between states with commercial interest in krill and conservationist

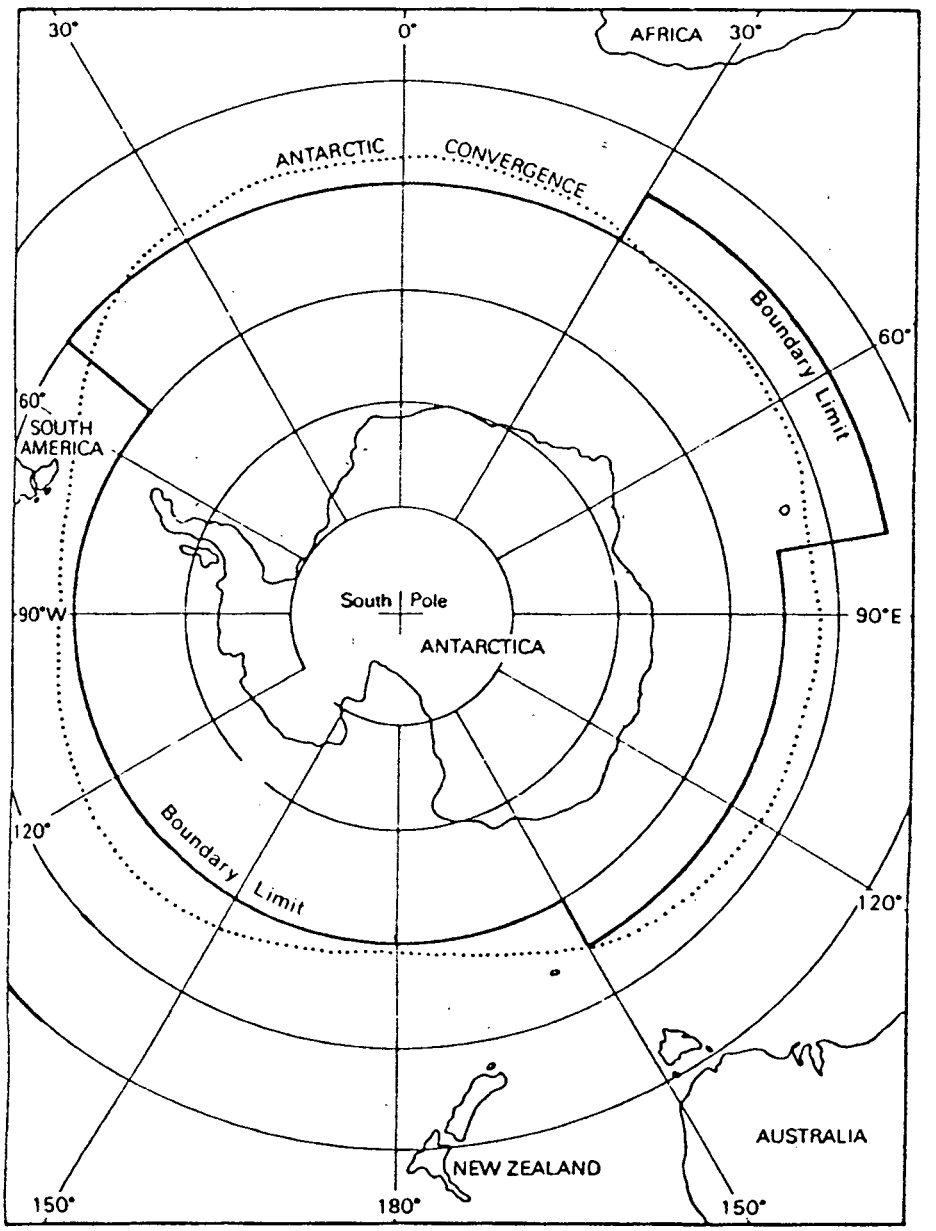

Figure The area covered by the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR).

states, resulted document was a compromise which may have adverse impact upon functioning of conservation regime.[31]

Membership on the convention is limited to contracting parties engaged in research and to regional economic integration organizations. There is a Commission which will be assisted by a Scientific Committee and contracting parties is required to contribute to the financial support of the Commission[32] to supply scientific data,[33] to comply with regulations of the Commission,[34] and to ensure that no one acts contrary to the objectives of this Convention.[35]

Convention has taken ecosystems approach in delimiting area of its application. Convention is applicable to marine living resources south of Antarctic Convergence which varies between 60_0 and 45_0S[36]. This defined area accommodates the interest of Argentina by rewarding the boundary farther away from the Drake Passage, of France, by balancing its interest in the Kerguelen and Crozet Islands, and of the United States by specifying an ecosystem scope of application.[37] To implement its conservative provision a Commission is there which will limit catch of species, but it will lack the authority to set national harvesting quotas.[38] Fishing states especially Japan and Soviet Union, preferred a weak management standard while conservationist states, particularly the United States pressed for stronger controls. But harvesting states

modified their stand because of the relatively weak language of Article II.

CCAMLR during its negotiations is faced with the issues of territorial sovereignty and coastal states jurisdiction. The conference finally decided to sidestep the sovereignty issue adopting a so called bifocal approach which permitted all interested states to participate in the convention.

The convention makes a serious attempt to balance a plethora of competing interests and establishes a workable regime satisfactory to harvesting and conservation minded claimant and non-claimant states, and ATCPs and non-ATCP states. But in satisfying all parties it has left many gaps which needs to be filled in coming regimes. The speed with which the convention was negotiated and signed indicates the sense of Consultative Parties that their failure would create a vacuum which would be filled by non-club members.[39]

Apart from the prospects of wider state participation in the Antarctic Region, several international organisations also demonstrated interest in Southern Ocean like UNDP, FAO and SCAR but they were not given full attention.[40] They were excluded from the negotiations of the convention until the final decisive meeting.

Without a strong system for implementing conservation measure, harvesting states will be free to

overfish in protected areas.[41] It is because of the vested interests of harvesting states that Convention does not establish an observation and inspection system but asks for individual states' commitment.[42] Besides this consensus voting and objection procedure on conservation measures have given them double veto. Thus the convention appears to be deficient in its fundamental self-policing provisions. Conventions asks contracting parties to supply data and information[43] which raises the danger of allowing harvesting and conservation decisions to be taken on insufficient knowledge about the effects of harvesting on target and dependent species.

CCAMLR provides a positive and reasonable approach towards conservation and management prior to heavy utilization of the fishery. The Convention reflects the compromise and accommodation necessary to achieve agreement on a wide variety of disputed issues. However, if the signatory parties ratify the Convention, and adhere in good faith to its objectives, and apply its provisions with conservation as their goal, it may stand as a model of international cooperation in achieving a balance between the vagaries of commercial exploitation and the values of conservation and environmental protection.

MINERAL REGIME

In the late 1960 Antarctic Treaty started receiving enquiries and request about the possibility of

exploring and exploiting minerals and hydrocarbons in Antarctica[44]. These enquiries for the first time pointed out the so called 'resource gap' in the Antarctic Treaty. This prompted ATCP to informally discuss the subject of resource development and regulation in Antarctica during 1970 Consultative Meeting in Tokyo.[45] The mineral issue got another impetus after the discoveries of Glomar Challenges expedition to the Rose Sea in 1972-1973 and also by Arab oil embargo. Along with all these sea-bed mining regime may have furnished the telling incentives for the Antarctic Consultative Parties to press ahead a mineral regime for the Antarctic Area.[46]

Between 1972 and 1981, discussions of Antarctic mineral took place in regular ATCP session. At successive Consultative Party Meetings, through the formation of Recommendations to their governments, the ATCPs defined and refined the principles which should govern regulation of mineral exploration and development in Antarctic. The main principles, set out in ATCP Recommendation XI-I of 1976 was that ATCP should play responsible role in dealing with questions of Antarctic mineral resources and while doing this Antarctic environment and its dependent ecosystem should be protected; and the interest of all mankind should not be prejudiced.[47]

Based on these principles the process of constructing institutions began in 1982 as first Special Consultative Meeting on Antarctic Minerals was convened.

After that in different Special Consultative Meetings Christopher Beeby, Chairman, of the negotiations produced as many as four different text of Mineral Regime. Finally the last draft (IVth) was adopted in 10th Special Consultative Meeting at Wellington in June, 1988.

The proposed Antarctic Mineral Regime[48] comprised of four principal institutional organisations (i) the Special Meeting of all States Parties to the Convention,[49] (ii) The Antarctic Mineral Resources Commission,[50] (iii) a series of Regulatory Committee,[51] and (iv) the Scientific, Technical and Environmental Advisory Committee.[52]

The international sentiments have been against any mineral regime mainly because it may not be able to protect the environment of Antarctica. Since the beginning of the negotiation process, environmentalist groups, such as Antarctic and Southern Ocean Coalition (ASOC) and Green peace International, have opposed any agreement that allows any form of exploitation or mining in Antarctica. They propose that Antarctica should be set aside as a "World Park."[53]

However, the Convention was signed in June 1988 but the concern for environment, politics, the ambiguous and troublesome nature of the agreement itself, contributed to the waning and eventual death of the Mineral Convention. The withdrawal of support by France and Australia signaled

the death knell of the Mineral Convention. There were two claimant countries. The other claimant countries however, had continued their support to Convention of 1988. Italy, India, Belgium and East Germany have abstained from signing the Mineral Convention.

The collapse of six year of negotiations left a significant gap in the Antarctic Treaty system. To fill this gap again efforts started to prepare another draft of Mineral Regime at the XIth Special Consultative Meeting (SCM) of Antarctic Treaty States at Vina del-Mar, Chile which was held from 19 November to 6 December 1990. It considered six different types of proposals on comprehensive environmental protections presented by different countries. India also submitted a Comprehensive "Measures for the Protection of the Antarctic Environment and Dependent and Associated Ecosystem".

A long debate continued between those who wanted to keep Antarctica as a natural reserve and those who wanted to exploit its potential mineral resources. A group of nation led by Australia and France were convinced that an environmental disaster would overtake the continent if it was opened to mineral exploitation. On the other hand for Britain, Japan and United States, it is wrong to commit future generations to policies which might no longer be appropriate in a very different economic, political and environmental context.

So a compromise proposal was submitted by Norway and Spain at the Second Session of the Antarctic Treaty Special Consultative Meeting

ATS AND LAW OF SEA

Antarctic legal regimes has passed through a long span of time satisfying different needs of the world community and at the same time adopting itself to the changing realities. However, recent developments in the 'Law of Sea'[56] has raised controversies for applicability of Antarctic Treaties.

Coastal States Jurisdictions

Where a state has sovereignty over littoral territory it ipso facto has sovereign rights over any adjacent continental shelf and territorial sea, whether or not a formal declaration or claim to such a shelf or sea has been made.[57] The states which claims sovereignty in Antarctica also has a claim to sovereign rights over its Antarctic maritime jurisdictional zones. However, the ownership of Antarctica is marked by open international controversy, which also affects the lawful assertion of maritime jurisdictional zones.

As Antarctica is neither a continent of sovereign coastal states nor a recognized condominium de jure, possessing a uniform coastal frontier, so Antarctica fails

to qualify as a recognised sovereign polity. Thus any effort by claimant states to claim territorial seas, contiguous zones and EEZs is difficult to be accepted.

However, claimants are stressing their respective rights to claim maritime jurisdiction over adjacent waters on the premise that the title to territory enables the assertion of jurisdiction over appurtenant water and continental shelf. They also assert that Article IV merely freeze the claims to the continent for the duration of the Treaty regime and the attendant right to establish jurisdictional zones seaward from their continental territories. That is why they believe that the Treaty does not restrict their right forever,they as may be able to claim these zones at some future date.[58] At present, there is no recognised maritime jurisdiction zones seaward off the Antarctic continent, even if it has been argued that the Chilean sovereignty decree issued in 1940 covered the territorial waters.[59] In 1979 Australia, having applied domestic EEZ legislation to the Australian Antarctic Territory, reversed its decision the next day on account of adverse international reaction.[60]

In theory atleast it is possible to take the position that certain states principally the Consultative Parties have collective rights applicable erga omnes to establish regulatory regimes for Antarctic continent and for offshore areas subject to coastal state jurisdiction under

international law, even if no consultative party has perfected a claim to sovereignty over the land territory in question. This could be done by establishing a condominium.

Enlargement Of Claims

Non-claimant states, denying the legal validity of Antarctic claims and attendant sovereign rights, maintain that any assertion of maritime jurisdiction seaward from the continent would constitute either a new claim or the extension of an existing claims in breach of Article IV of the Antarctic Treaty.

Article IV of the Antarctic Treaty does two things, the first paragraph 'freezes the position of the parties with respect to claim. The second paragraph prohibits new claims or expansion of existing claims. Article IV refers only to claims or "territorial sovereignty" which might be read literally to include the territorial sea but not the continental shelf or the exclusive economic zone.

On the assumption that the assertion of right to the exclusive economic zone constitutes a claim to territorial sovereignty, such an assertion in Antarctica would be prohibited by Article IV (2).

However, assertion of right over an exclusive economic zones is not enlargement of previous claims, hence not contrary to Article IV (2) if we accept that EEZ exists

on a consequence of territorial sovereignty and does not depend upon prior assertion. The Article 77(3) of UNCLOS III also says that right over territorial sea and continental shelf does not depend on effective occupation or any proclamation. Same could be concluded for EEZ that no proclamation of sovereignty is required for claiming EEZ. Case of 'Beagle Channel' and 'Aegean Sea Continental Shelf' also support the view that the jurisdiction of a state over its adjacent maritime zone and continental shelf expands with the development of international law.

If we also accept that a claim contrary to Article IV (2), for a claim to exercise sovereign rights in a maritime zone is not tantamount to a claim of territorial sovereignty.

State practice in Antarctica has been different as to the declaration to EEZ. Argentina, Chile, and France had prior to 1982 UNCLOSIII applied to their Antarctic territory their legislative claims to 200 miles EEZ.[60] On the other hand New Zealand excluded the Ross Dependency from its declaration of a 200 miles EEZ in 1977 and similarly Australia also followed.

Island Regimes

According to UNCLOS III islands are legally capable of generating their own 12 mile territorial sea, 200 mile EEZ, and extensive continental shelf.[62] In Southern

Oceans, north of 60^0 S latitude there are certain undisputed mid-ocean islands, lacking permanent settlement, indigenous inhabitants, and airfields tends to be small, desolate, remote, bleak and windswept.[63]. Proclaimed EEZ around some of these islands enter into the Antarctic Treaty area which is creating legal problems.

Some of such islands are Kerguelen (9000 sq. km.), the Crozet, the Amsterdam and Sint Paul, which are owned by France. France in 1978 established EEZs around each island. The Prince Edward Islands is claimed by South Africa since 1947. In 1979, South Africa proclaimed EEZ around these islands. Australia claimed EEZ around the Heardland McDonald Islands in 1979[64].

The question is whether coastal islands may extend their offshore jurisdiction into the Treaty area South of 60^0 S parallel when territory is located outside treaty area. The issue arises only if extension of coastal state jurisdiction based on sovereignty claims within the Treaty areas are prohibited.

It can be argued that in outside treaty area there is no prohibition for new or enlarged claims hence the proclaimed zone can enter Antarctic Treaty area. On the contrary it can also be argued that since within Treaty area no territorial sovereignty is accepted, therefore, there should be distinction on claims whether it is based on

territorial sovereignty outside or inside the Treaty area.[65]

Apart from this there are problems with some islands located on both sides of the 60^0 S latitude[66] and is claimed by different states. And each one is capable of generating maritime zone as provided by UNCLOSS III.[67] Off the South i, the South Drakens and South Sandwich Islands are geophysically considered as archipelagoes,[68] and under UNCLOS III convention they can eventually become sovereign independent states. And then, these state governments could assign to them archipelagic baselines,[69] designate their international water,[70] supervise the attendant right of innocent passage[71] or they could even suspend these rights.[72]

Before all these happen, the question that arise is whether these islands could become sovereign states within the perview of Antarctic Treaty? If not, then what will be the status of these islands? States would loss sovereignty over the whole archipelagoes (island) or they will have sovereignty over that portion which is north of Antarctic Treaty line. Alternatively it could also happen that these archipelagoes could be granted sovereignty relaxing Antarctic Treaty provisions. When Antarctic Treaty will be reviewed, if they would be, then this could become one of the issues under consideration.

Conservation And Environmental Protection[5]

Conservation measures should take into account the interdependence of stocks. The Marine living Resource Convention of Antarctica has reflected this approach. The convention is applicable to entire Antarctic ecosystem south of Antarctic Convergence and places great emphasis on the relationship between species and the protection of the fragile ecosystem as a whole.

The UNCLOS III also places substantial environmental duties on coastal states for the development of seabed resource and offshore installations. The exercise of coastal state's environmental powers over ships as given in UNCLOS III Convention poses some complex problems. Antarctic Treaty Article VI may not affect the freedom of navigation as individual claimant states in the Antarctic lacks the competence to affect those freedom under international law. But the Consultative Parties could adopt collective environmental measures with respect to navigation in the Antarctic areas to the extent that a coastal state is entitled to do so under UNCLOS Convention. However, there is nothing in the international law for high sea to prevent flag states from agreeing to those observed special measures. On the other hand some of the environmental hazards that is not controlled collectively could inspire more vigorous unilateral efforts by claimant states. This may destabilize the entire Antarctic Treaty System.

Revenue Sharing From Continental Shelf

The Article 82 of the Law of Sea Convention requires a coastal state to make modest payment in respect of the production of nonliving resources from the continental shelf seaward of 200 miles unless the coastal state is a developing one and a net importer of the resource concerned.[73] Antarctic Continental shelf would come under whose governance is still not clear. It is therefore also not clear whether non-parties to UNCLOS and the ATS are also required to pay such charges, and if at all, they are willing to pay, to whom they will pay either to ISA or to the Consultative Parties, and how?

The question that who would get benefit is a complex one. Individual claimant states may ask for payment as royalties or taxation. But because of the absence of accepted sovereign rights and according to the provisions of UNCLOS, the receiving authority should be international one, claimant state may come under a condominium for this purpose. But they cannot be accepted as international body. Then the Consultative Parties could also claim the responsibility which is a larger body having representation from greater number of states which is expanding day by day. Consultative Party has some valid claim as they have been active in the area and have spent huge sum of money also. Besides this they have been regulating the area for the past four decades. But the question that still arises is whether

they can be accepted as representative of an international organisation having support of majority of members of United Nations?

Besides these, distribution of benefits collected as payment under UNCLOS provisions is also not easy as the term 'royalty' suggest sovereignty. If distribution is limited to the Consultative Parties then issues would arise regarding their legal rights. If a preference is given to the territorial claimant state, it would recognise the territorial claims. If distribution is universal then it implies some universal property interest in the minerals.

There could be two alternatives approaches. The states might defer a decision on the question of payment from miners until the economics of Antarctic oil and mineral development is better understood. Or states might decide that payment made will be used exclusively to administer the mineral regime and to promote scientific research and environment protection in Antarctica.[74] Thus, all interested States in Antarctica will benefit.

This is not the end of the problem arising out of interaction of Antarctica Treaty systems and UNCLOS Convention 1982. There are many more issues which are yet to be resolved and yet to be identified. The scope of the Antarctic Treaty has been elaborated by Article VI regarding the high seas but its interpretation with UNCLOS Convention

can create variety of legal issues.[75]

Once the UNCLOS III Convention enter into force, the present Antarctic Treaty System could be subject to criticism and challenge by the rest of the international community. National interest of claimant and non claimant may surface due to this. These conflicts between the industrialised Consultative Party group and the technologically deficient, poorer countries in the Third World may take adverse turn. Moreover, given that claims made to Antarctica persist in being legally unrecognized by other states, it is not specious to foresee a campaign led by the group of 77 in the United Nation General Assembly aimed at getting the Antarctic region declared as the "Common Heritage of Mankind". At present exploitation of resources in and around Antarctica is exceedingly expensive and as yet not commercially cost-effective. However, it has been banned for 50 years recently through protocol on Environment. As a consequence, over the near future a rush to exploit these resources is not anticipated. If viewed over the longer term, say by the end of next century, both Antarctica's living and non-living resources are sure to loom larger importance and appear more lucrative for economic development. It is at that juncture that the UNCLOSS III Convention will take on special pertinence for this cold continent and its circum polar waters.

Thus it is not too early now to look to

Antarctica's future and make plans accordingly for regulating the region's natural resource. Failure to do so would invite not only disputes but potential ecological disaster. And in this respect the UNCLOS III assumes greater significance to the ATS.

TREATY AND THE UNITED NATION

The relationship between Antarctica and United Nation (UN) is very old and it goes back to the first decade of the inception of UN. An eight power trusteeship under UN was proposed by USA[76] but the offer was rejected. The UN was only two years old when the suggestion was made that the polar regions should be brought under UN.[77] This was the time when every one was in love with UN and proposal could have been accepted if it had not been linked to the North Polar region where Eastern and Western blocks were taking positions against each other.

In 1955 Britain also made some efforts for the internationalization of Antarctica but was discouraged by the result of US attempt in 1948. After that there were efforts to bring Antarctica under the perview of UN by New Zealand (1956)[78] and twice by India (1956[79] and 1958[80]), but the proposal was withdrawn due to lack of support from super powers and other claimant states.

After this during IGY (1957-58), a regime to regulate activities in Antarctica was suggested and it was

accepted in 1960. The Antarctica Treaty implicitly committed its contracting members and also those who would join latter, to the principles of the Charter of the UN. As it has been noted earlier Antarctic Treaty asks to use Antarctica only for peaceful and scientific purposes. It has kept the area free from all types of military weapons including nuclear weapons. The cold war which had spread like fire had not reached this frozen continent. USSR and USA is cooperating in scientific research activity. United Kingdom and Argentina the two known confrontationist in the area were sitting on the same table for negotiations even when Falkland War was going on outside.

Some of the issues which could have led to international conflicts, the Treaty had been able to freeze mainly the issues of territorial claims.

The Treaty has adopted itself to the changing needs of the time. UNCLOS Convention 1982 had brought the issue of Maritime Jurisdiction Zones in Antarctica, to the forefront. But CCAMLR 1982 may put the issue to the cold storage for the coming decades. Similarly another conflicting issue of mineral resource exploitation, which had serious implications on sovereignty claims has been buried beneath the ice at least for next half a century.

United Nations has been always concerned about the environmental conditions of the Globe, various environment related UN organisation reflects its concern. The Antarctic

Treaty has various provisions to safeguard that unique environment. Whatever loopholes have been identified in the Treaty, that has been tried to fill by various amendments agreed upon in Consultative Party Meetings and by conventions on Seals, Marine Living Resource and Mineral Resource separately. However, advocates of conservationist approach do not consider Antarctic Treaty System sufficient to protect the uniqueness and blame influential Consultative Party members for ambivalent approach to fulfill their vested interests of getting maximum commercial benefits from Treaty area. Nevertheless efforts and willingness of Treaty System, as a whole cannot be negated all together.

Consultative Party is not convinced that they are doing anything which is against the United Nations Charter.However, there has been demand especially by Malaysia in 1983, in UN to include Antarctica within the control of UN and disband Antarctic Treaty system. Malaysia and number of other Third World countries criticized the Antarctic Treaty system and advocated management of the continent by international community and urged the application of "Common Heritage of Mankind concept to the area (demanded in 38th session of UNGA). Later on the approach and criticism of ATS by Third World States became mild in the UN. During the 39th session, they readily admitted the achievements of the treaty and tended to advocate a modification of the Treaty rather than press for

an alternative or parallel regime.

Since then the issue of Antarctica is always on the agenda of General Assembly sessions. Meanwhile the Third World states have demanded the expulsion of South Africa from ATS. Thus the issue of Antarctica is being discussed in UN and the demand of application of CHM principle is growing day by day. Now when mineral resource extraction has been banned for next 50 year by ATCP, will the Third World States be able to bring Antarctica under CHM and extract benefits for themselves with the help of UN.

PROSPECTS OF A FINAL LEGAL REGIME FOR THE GOVERNANCE OF ANTARCTICA

The Antarctic treaty, at its time of inception was seen as one of the ways to keep Antarctica out of growing tensions at the international level. The most important achievement of the treaty was to freeze territorial claims in the continent and to secure unrestricted access to the continent.

Original Treaty members could have distributed the region among themselves only. Instead they left the Treaty open for other states. Conflicting claims of Britain, Argentina and Chile,- and unwillingness of the developed countries to share resources and know how with developing states (Argentina and Chile) must have been at the base of not agreeing for the condominium type of structure.

Openness of the treaty could be explained by the feeling of technological superiority of most of the states. It could also be explained by the their inherent superpower rivalry, as both parties were busy asking their supporters to accede to the treaty and influence the decisions. But in a situation of consensus decision last reason does not explain much.

Whatever might have been the reason, today their lack of agreement has proved fruitful. By 1990, 39 states have joined the Antarctic Treaty of which 26 have Consultative Party membership. The presence of developing states is increasing and very soon they will have considerable say if the present trend continues. Once developing states who are members of ATCP decide to pursue their common goal of benefits for all instead of their short term individualistic opportunist approach of getting favours from the developed, things would start changing. The stipulated 30 year water mark has also passed now. Any of the ATCP may ask for the review of the treaty and in the absence of consensus the Treaty a fail. It seems even more likely especially when the Third World states are coming in majority in ATCP.

Till now no one has come forward to ask for review of the Treaty. The revision of Treaty may again bring the 1950s situation and ignite rivalries not only among claimants themselves, but also among claimant and non

claimants. Also a new dimension will be added this time, that is, rivalry between contracting parties and the Third World states, or developed states of ATCP and the Third World states of ATS. Uncertainty of future in such a multifaceted conflict would be keeping ATCP away from any such demands.

The revision of the Treaty, leading towards dismantling of ATS may not necessarily bring that grave situation. Conventions on Seals, Marine Living Resources, and Mineral Resources have been negotiated out of Antarctic Treaty. So end of ATS does not necessarily mean end to all regulation.

Antarctica would not be free for all kind of activities but will be governed by associated legal regimes. Above all, as far as claimant states are concerned they would not be in majority, this time and they may be pursued or compelled to withdraw their claims in the general interest of mankind. Another thing that could happen is the compulsion that led states to Antarctic Treaty in 1960 may again bring interested states to the negotiating table. This time awareness for conservation of Antarctic environment and knowledge of ecological balance is much more. Dangers of nuclear weapons; technological advancement in resource exploitation, and weapons developments; increased awareness about Antarctica especially among Third World states; etc. may balance different conflicting groups

instead of destabilizing them and it may help in arriving at more effective and appropriate New Antarctic Treaty. The recent detente between two Super Powers and resulting unipolar world politics may also help this polar issue to settle in the interest of mankind.

Thus, one should not panic from new challenges. Now the time is coming to accommodate new approaches in the Antarctic Treaty System. Demand and aspirations of recently awakened states must be given due respect. The benefits from Antarctica whether it is in the form of resources or scientific knowledge must reach the humanity and for this the Third World States must continue its struggle.

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66. Some of the Islands located both side of 60PT0PT S Latitude are Macquasic Island (Australia), Peter I Island (Norway); the South Shetlands (Argentina Chile and U.K.), South Georgia Island (Argentina and U.K.); the South Orkneys (Argentina and U.K.), the South Sandwitch Group (Argentina & U.K.), Bouvet Island (Norway), Prince Edward Island (South Africa), (rozet and Kerguelen Island (France), and Heard Island (Argentina).

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CHAPTER III

CLAIMANT, POTENTIAL CLAIMANT, NON CLAIMANT STATES' PERSPECTIVE ON ANTARCTICA

ACTUAL TERRITORIAL CLAIMS

18th century was the period of colonization whatever new land was discovered that was colonized by one or the other western power. Antarctica was discovered by a Russian a British and an American simultaneously during 1820-21, but no one really tried to colonize it, may be because of its harsh climate, rough sea, great distance and unstrategic location. However harvesting of some living resources from the circumpolar ocean started. Competition for harvesting living resources like whales and seals among countries and need for logistic support in Antarctica could have given the insight for control of terra nullius

United Kingdom was the first country to lay territorial claim over a part of Antarctic territory. In 1908 it staked the official claim over Falkland, and later on, extended it to the Antarctic Peninsula in 1917. On the whole, United Kingdom is claiming sovereignty over Antarctic territory lying between 20^{o} W to 80^{o} W longitudes, south of 60^{o}S latitude up to the South Pole. In a way, it was U.K. which began the process of colonization in this continent, which was then followed by other countries.

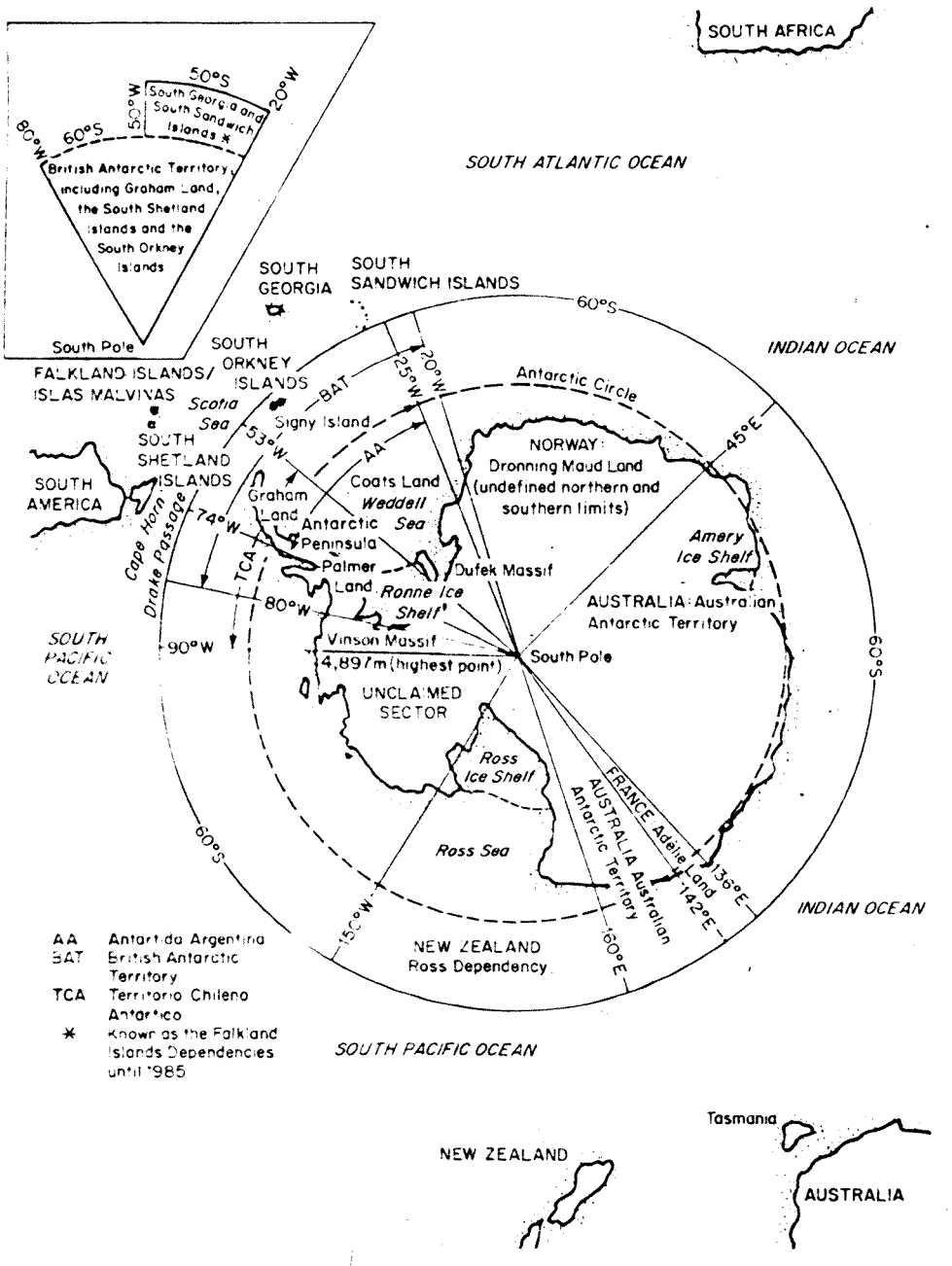


Figure Antarctic territorial claims.

Other countries making territorial claims in Antarctica are New Zealand, Australia, Argentina, Chile, France and Norway.

New Zealand made its claim for territory between 150° W to 160° E latitudes in 1923[1]. This was in fact awarded by UK, to the Governor General of New Zealand. Similarly another sector was awarded to Australia in 1933. Now Australia has made its claim for two sectors between 142°E to 160° E and 45° E to 136° E..

Claims of Argentina and Chile overlap not only each others but also that of Britain. Argentina in 1943 claimed a sector extending between 25° W to 74°W long, from South Pole to 60° S latitude.[2] On the other hand Chile's claim made in 1940, cover the Antarctic territory between 53° W to 90°W from pole to 60° S. latitude.[3]

In anticipation of the claim on Australia's behalf, France in 1924 (before Australia's claim) annexed Adelie land. It consisted of a relatively small wedge, extending between 136° E to 142° E South of 60° S[4], now sandwiched between the slice of the Australian sector. It included islands of St. Paul, New Amsterdum, Kerguleien and Crozet.

Norway made its claims in 1939, at a time when Europe was very tense because of Germans' activities who were also planning to send an expedition to Antarctica. A

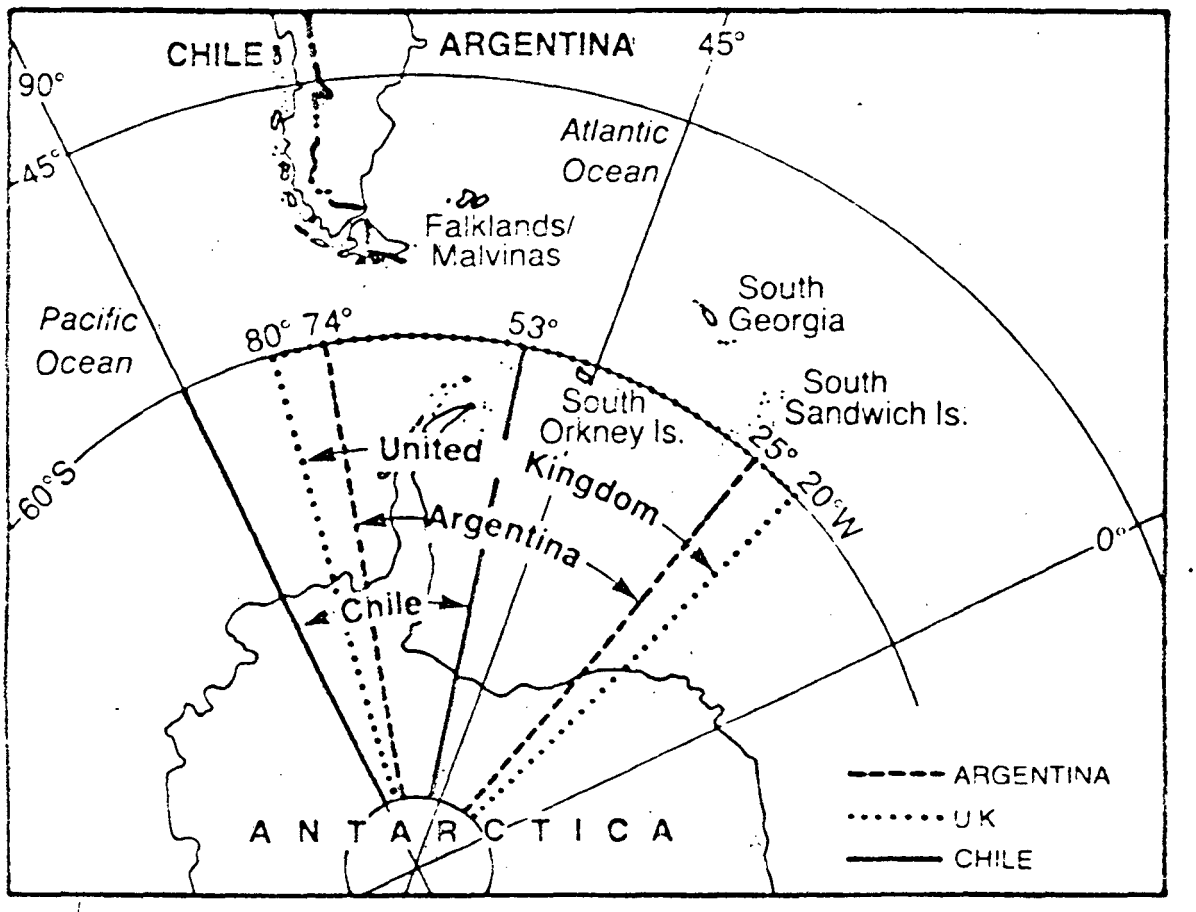


Figure The South American quadrant of Antarctica. This quadrant, defined normally to extend between 0° and 90°W, includes an area subject to overlapping claims advanced by Argentina, Britain and Chile (after Child 1988a: 75).

pre-emptive declaration of sovereignty by Norway just before the Second World War on the Queen Maud Land extending between longitudes of 20° W to 45° E without delimiting northern and southern limits,[5], was infact a welcome event for Allies.

Thus, in total, about 85 per cent of the Antarctica is claimed by these seven countries. The Australian, British and New Zealand's claims were mutually recognised, since they derived from one British imperial policy, and during (1939) these three governments, in conjunction with France and Norway, acted to recognize each other's claims.[6] On the other hand, Chile, Argentina and the United Kingdom do not recognize each others claims[7].

CLAIMANT'S PERSPECTIVE

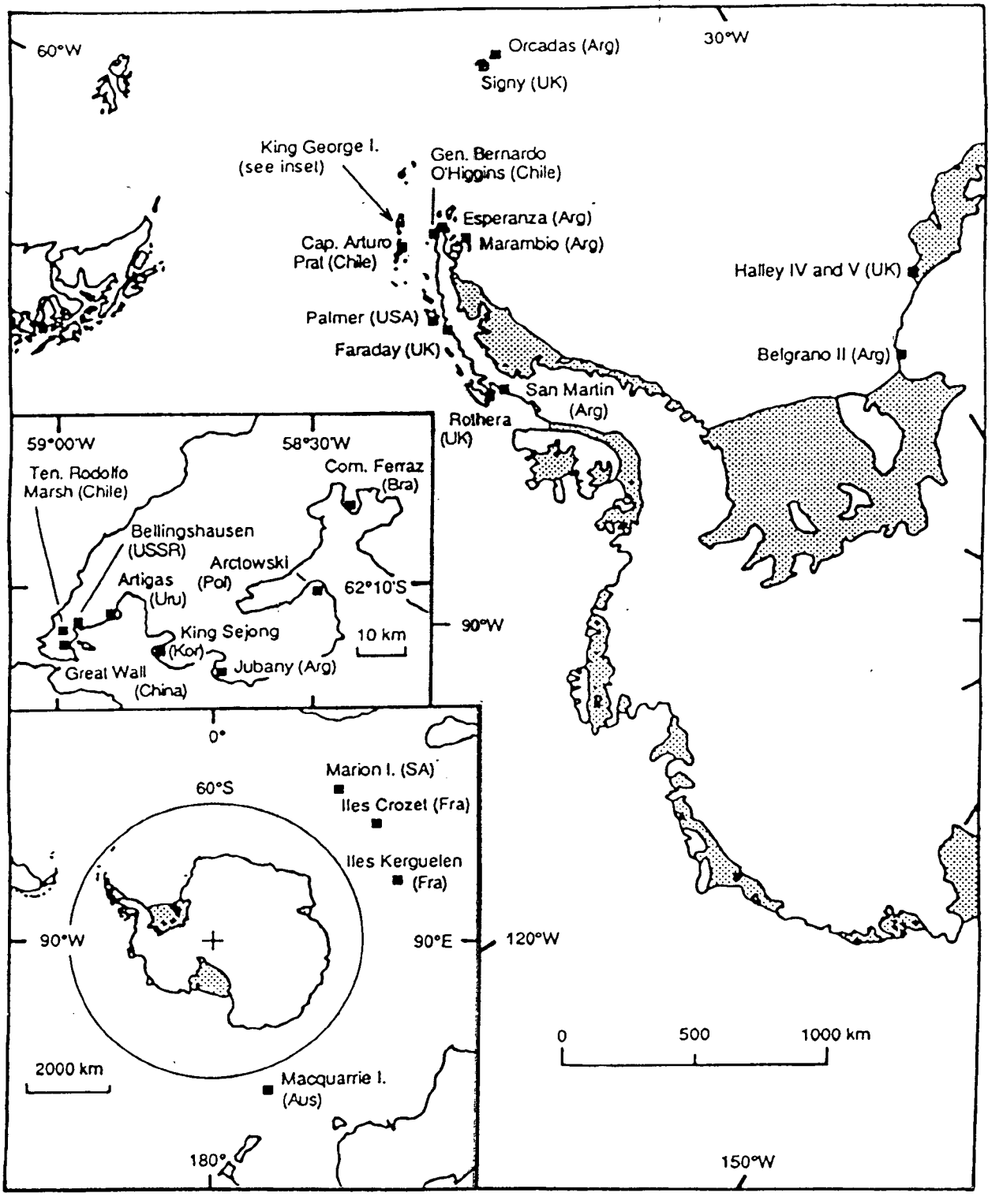
Claimant countries have supported their territorial sovereignty in Antarctica through various theories and doctrines of territorial sovereignty. Some of them are internationally accepted law and others are not. Countries according to their convenience have accepted one or the other theory in their support, and have rejected others' to negate others claims on Antarctica. In following section, theories of territorial sovereignty as used by claimant countries to defend their claims have been analysed.

The Principle of Effective Occupation

Most of the claimant countries have advocated the principle of effective occupation for their territorial claims in Antarctica. United Kingdom (UK) considers itself a discoverer of Antarctica, besides this, she has been actively engaged in exploration of Antarctic coast through the expeditions for the exploitation of whales and seals. UK also has in its control many islands in the Antarctic waters and has established settlements not only on these islands but also in Antarctic Peninsula. She is also the first to officially claim a territory in Antarctica in 1908, by issuing decrees. Thus she seems to be fulfilling the two conditions of effective occupation - the intention and will to act as sovereign and some actual exercise or display of such authority.[8]

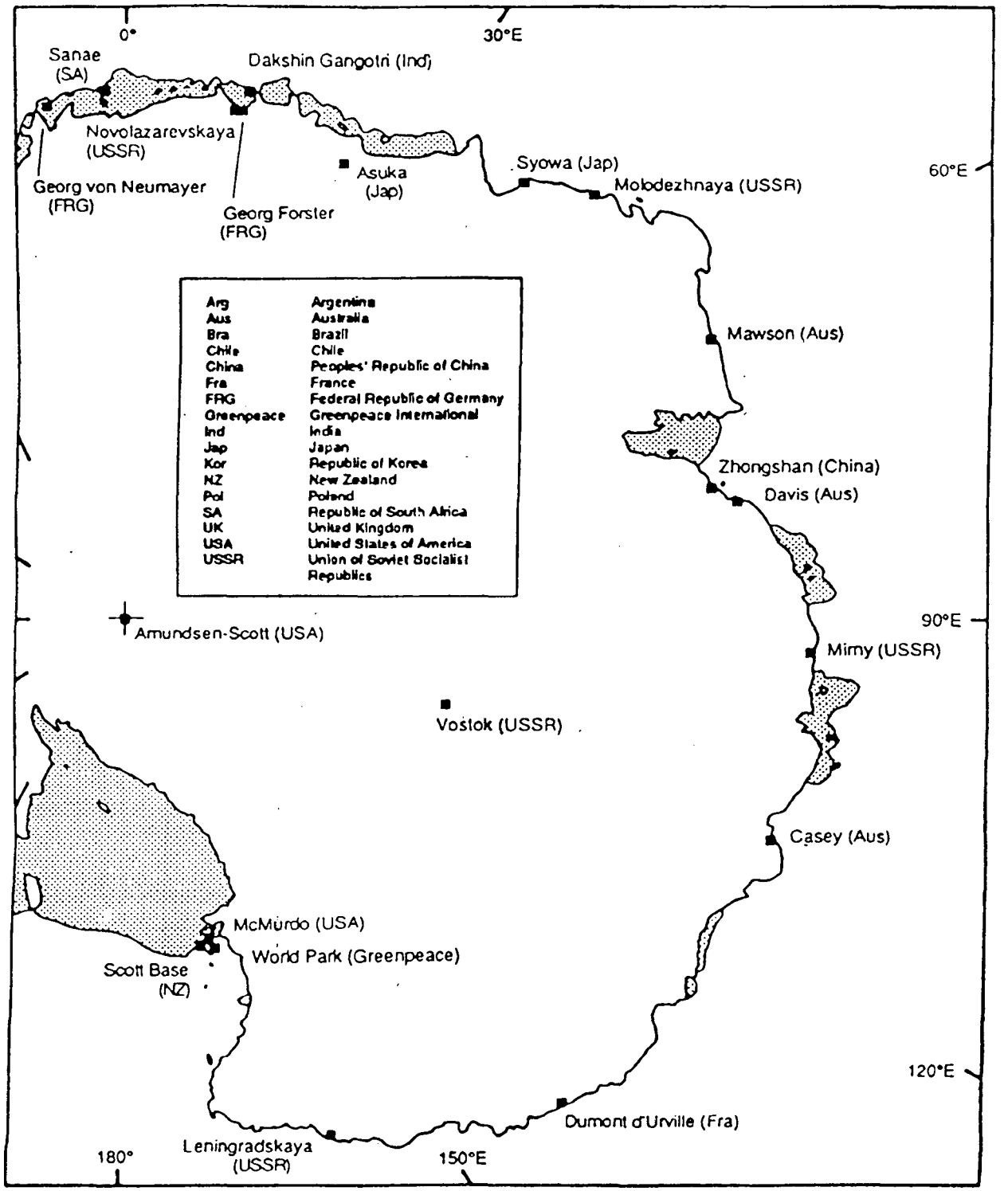
The same arguments are also given by Argentina Chile Australia, New Zealand, Norway and France also.

France who in claiming a sector surrounded by Australian Antarctica has based its claims on the expedition of Yves-Joseph de Kerguelen Tremarec in 1972, and Jules Sebastien Cesar Dumont d' Urcrille. Its first expedition[9] led to the discovery of Kerguelen Island, which was earlier thought to be a part of Antarctica. Second expedition under the leadership of d' Uirille discovered magnetic pole and that it is different from geographic pole. At that time only he claimed a piece of the continent for France and named it



Based on the source map prepared at 1:20,000,000 by the British Antarctic Survey Mapping and Geographic Information Centre, 1990.

Wintering Stations operating in the Antarctic and sub-Antarctic, 1990
Source: SCAR, 1991

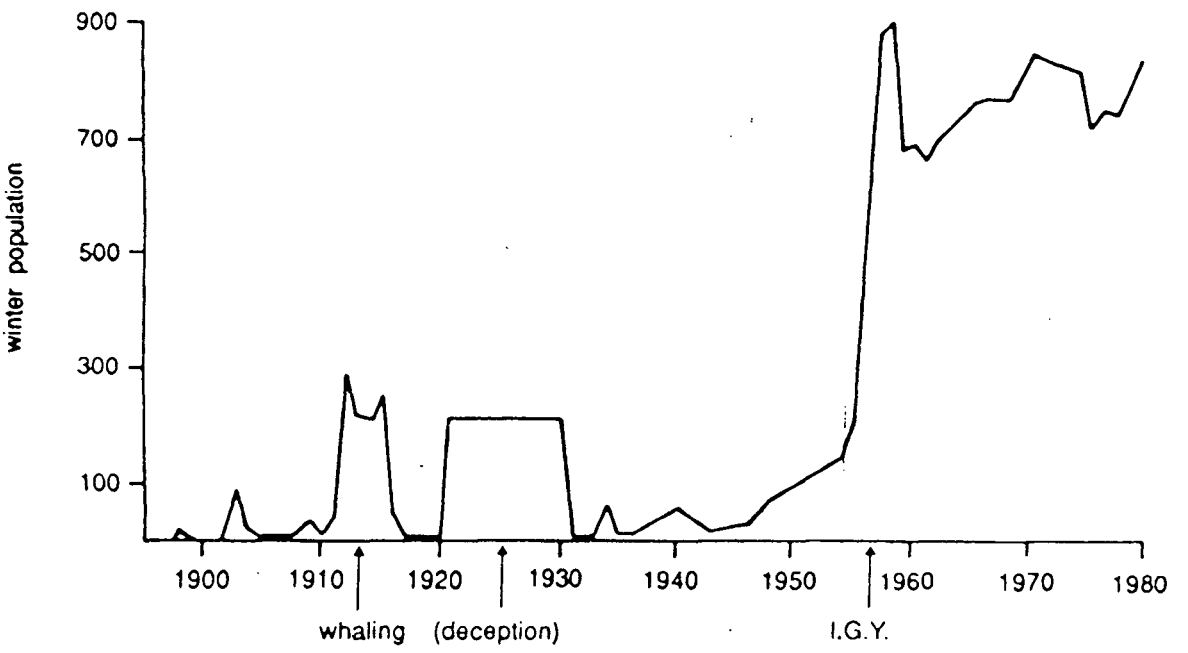


Adelie Land after his wife. After that France is engaged in many other exploration activities in Antarctica waters and it has under its sovereignty many islands and has established settlements. On the basis of these activities France made the official claim in 1924.

On the basis of activities of British nationals in the area south of Australia and New Zealand, Britain carved out territories in Antarctics, and later on, Britain awarded them to Australia and New Zealand. The early activities by Britishers in these areas are taken as the intention and will of the state to act as sovereign. Second element of effective occupation is said to have been fulfilled by the official declaration by Australia and New Zealand in 1923 and 1933 respectively.

Norwagiens have been engaged in the exploration of Antarctica from the very beginning. Its national, Amundson, was the first to reach the South Pole in 1911. On the basis of its involvement in Antarctica Norway she made the official claim for Antarctic Territory in 1939 [10] based on the theory of effective occupation.

Argentina has also used the theory of effective occupation for supporting her claim in Antarctic territory. Argentina argues that its sealers based in Buenos Aires were operating in the Antarctic waters at least two years before the generally accepted dates of Antarctic discovery. Thus



Total wintering population in the Antarctic south of 60 S latitude from the first overwintering expedition to 1980 (from Sugden, D. 1982. Arctic and Antarctic. *Basil Blackwell (Oxford)).*

claiming on the discovery of Antarctica it also argues that it has been maintaining its permanent occupation in Antarctica since 1904.[11] Besides these, it has performed a imperial of administrative activities over the years, including the first post office (in South Orkneys, 1904) the first radio station (same site 1927), and registry of marriage, deaths, and births etc..[12]

On the other hand Chile is also making claims for the discovery of Antarctica. According to them Admiral Gabriel de Castille in 1603 reached up to 64°S along the Antarctic peninsula. It claims that in 1820 a man from his ship called Dragon landed on Antarctic Peninsula.[13] The Chileans also note that in 1906 Santiago authorized the establishment of the Magallanes Whaling Company on Deception Island[14] Thus it argues that by making visits to Antarctica and passing administrative acts for Antarctica it has fulfilled the conditions of effective occupation.

No claimant states fulfill the conditions of effective occupation, strictly speaking. As Antarctica was a terra nullius claims of discovery are contradictory and they are still not decided. The presence of claimant states in Antarctica has always consisted of scientific stations, which although quite numerous, only occupy small areas. There is hardly any permanent settlement worth its name, based on the exploitation of land (ice) resources. The only activity the claimant states have carried out for

exploitation of Antarctic resources is fishing. Scientific research and fishing, however, do not constitute evidence of a permanent settlement. Moreover states, other than claimant states have also carried out these activities.

Of course, when claimant states have set up stations, they have also adopted laws and regulations extending their complete jurisdiction over the entire sector claimed. Nevertheless, effectiveness of such laws and regulations must be demonstrated. At present, the continent remains largely inaccessible. It seems absurd to maintain that states jurisdiction, can extend where man cannot arrive.

Thus the two elements of effective occupation do not seem to have been fulfilled. As occupation for the purpose of scientific research and exploration at few isolated places are not sufficient to show the intention of states. And regulation of their personnels only in Antarctica, leaving others active in their claimed territory, does not give proof of state's authority.

Sector theory

Territorial claims in Antarctica is supported by many claimant states. Prominent among them are Argentina, Chile, UK, France, Australia and New Zealand.[15] Norway have not accepted it.[16]

According to the sector principle, as used in the

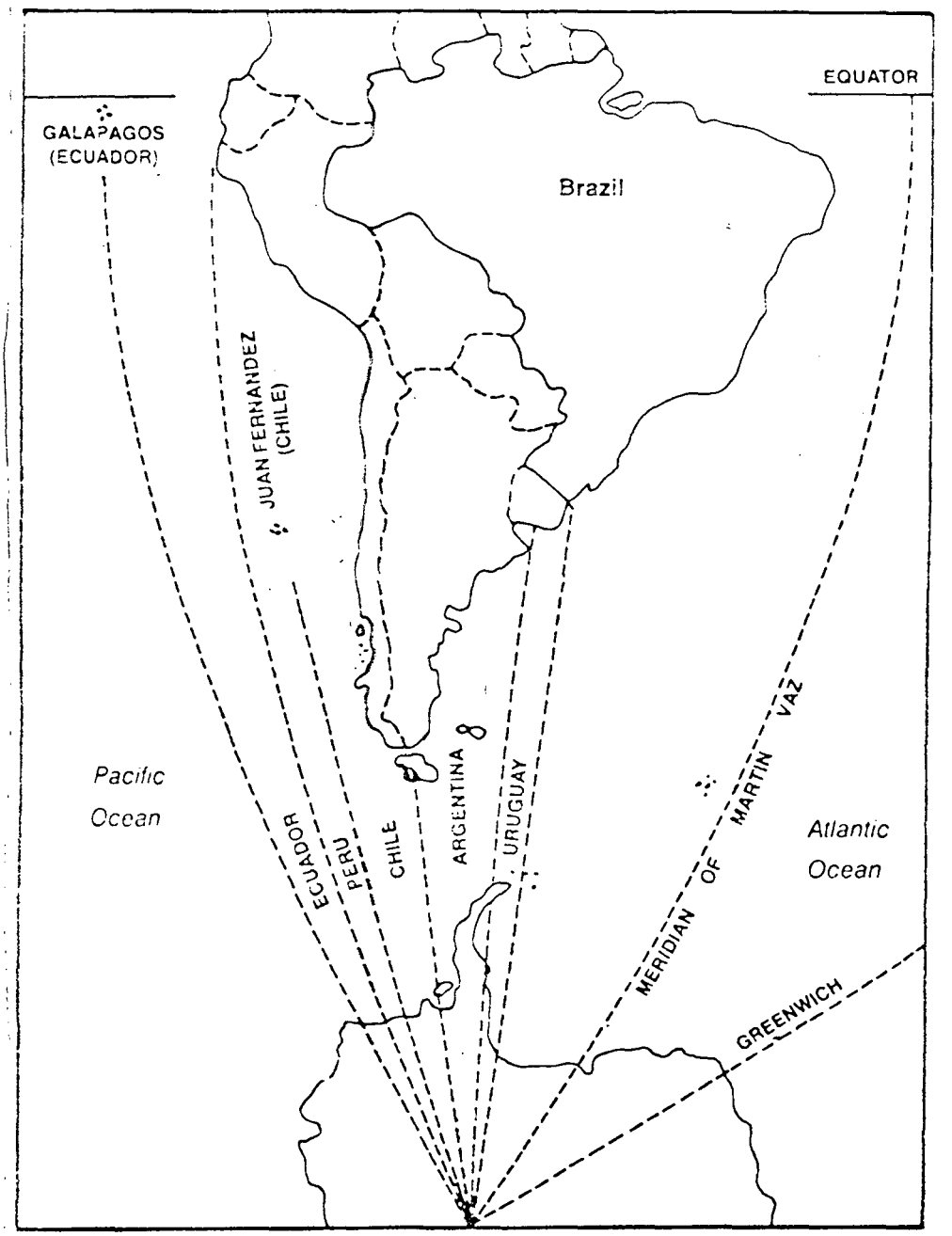


Figure 2. Brazilian 'frontage' (*defrontaçao*) theory. This concept, proposed originally by Theresinha de Castro in the 1950s, argues that each South American country with unobstructed frontage to Antarctica should have an Antarctic sector between the two meridians defining the frontage (after Child 1988a: 92).

Arctic region, all states whose territory extend beyond the Arctic Polar Circle should ipso facto acquire sovereignty over all polar regions including land and sea situated in a triangle with its apex at the North Pole and its base in a line joining the east-west extension of the coast of each state. If this theory is extended in Antarctica, as such, states whose territory lie south of Antarctic circle ($60^{o}S$) could claim territory in Antarctica. But no claimant states have territory south of $60^{o}S$ so they cannot claim any territory in Antarctica.[17]

However in Antarctica, sector principle is used in different way. Here territorial boundaries are defined according to line of longitude converging on the South Pole from either of two types of baseline: main land boundaries of the claimant state or a length of the Antarctic coast discovered or occupied by the claimant state.[18] In this form sector theory requires a sound and credible basis in either contiguity theory (main land boundaries), or discovery, and effective occupation theory (length of coast discovered or occupied) neither of which has been found to provide adequate support for claims.[19]

Thus in both the form sector theory does not support any states' claim on Antarctica, as the sector principle is found on geography, but the triangle in Antarctica has no geographic base.[20]

Propinquity

Another theory which has been used by claimant states to justify their claims is propinquity. The theory is very old and ambiguous and is based on theory of contiguity and continuity.[21] According to this theory sovereignty acquired over a part of a geographical unit ipso facto extends to all parts of the same unit which are geographically contiguous and geologically continuous to it.[22]

Argentina and Chile argue that the Antarctic Peninsula and Ellsworth land structurally represent a continuation of the Andes mountain of Argentina and Chile.[23] Argentina and Chile also argue that geographically they are closest to Antarctica as there is only 1000 kilometers wide Drake Passage which separate them from Antarctica. New Zealand, Australia, United Kingdom and France (on the basis of islands under their control in the Antarctic waters) are also supporting their claims on this principle.

The theory as such has been rejected by the world community. In case of Antarctica if this could be applied then we will arrive at a situation where every claimant state and particularly the first ones, would have sovereignty over whole of the continent of Antarctica, as the whole continent is a geographical unit.[24] Apart from this the borders between claimed areas are straight lines and geography does not accept straight lines but follows

mountains chains, rivers and lakes.[25]

Uti Possiditis Principle

Theory of uti-possiditis juris (retention of possession by right), has been forwarded by Argentina[26] and Chile[27] in support of claims in the Antarctic territory.[28] Under the Papal Bulls Treaty (issued by Pope Alexander VI in 1943), the "New World" was awarded to Spain and Portugal.[29] Through subsequent treaties, Spain obtained the right to whatever lay to the south of the "New World."[30] On this issue chile and Argentina argues that under theory of uti possiditis they succeeded to the right to Antarctica that were vested in Spain, when they broke away from Spain in 1890.[31]

Quigg (1983) has rejected Argentina and Chilian basis of territorial claims giving following arguments:[32]

1) Antarctica was unknown at the time when Spain and its colonies separated since it was first sighted by Von Bellingshausen ten year later. Thus it is impossible for Argentina or Chile to obtain any part of Antarctica.

2) Since Spain did not have possession of Antarctica at the time of the secession, Argentina and Chile could not get the territory Spain did not have.

3) Assuming the claim passed automatically Antarctica was still terra nullius and to acquire title Argentina and Chile

must use the method of "discovery followed by effective occupation".

POTENTIAL CLAIMANTS PERSPECTIVE

United States of America and Russia are considered as potential claimants as both the countries have sufficient basis, just like other claimants, to claim a territory in Antarctica. And during Treaty negotiations they had reserved their rights to claim sovereignty in Antarctica.

Inspite of the fact that Americans have been engaged in Antarctic matters even before the actual discovery of the icy continent[33] it is argued to be the first sighter of the continent and it has explored many parts of this continent and it has many permanent scientific stations in all the claimed sectors, it has never made any official territorial claim in Antarctica.[34] However, two U.S citizens, Admiral Byrd and Lincolon Ellsworth made territorial claims on the basis of their explorations but it was not ratified by the United States.[35]

America stressed that Antarctica, as it was tera nullius could only be claimed by effective occupation and because of climatic conditions Antarctica was not amenable to effective occupation[36] Despite the public adherence to this policy, just before the second World War secret plans were made to put forward the U.S. claim to the Antarctic territory.[37] Finally the clear picture of U.S., that emerged

at the Antarctic Treaty Conference in 1959, was that it did not recognize any other country's territorial claims of sovereignty over any portion of Antarctica, and it reserved its own basic historic rights.[38]

Similarly erstwhile Soviet Union had also assumed a somewhat similar line towards Antarctica. "The Soviet Union" reserves for itself all of the rights based on the discoveries and explorations of Russian navigators and scientists, including the right to make corresponding territorial claims in Antarctica.[39]

A number of other governments, particularly in Latin America, like Brazil, Peru, and Uruguay have referred to rights in Antarctica as well as to their refusal to recognize existing claims. Latin American countries writers are supporting their claims on the basis of Frontage theory as developed by Therezinha de Castro and Carlos Delgado de Carvalho.[40] But there has been no official confirmation claims in Antarctica.

NON-CLAIMANT'S PERSPECTIVE

Non-claimant Antarctic Treaty Consultative parties, in general, have not accepted any of the territorial claims and neither they are advocating their own claims. Japan, South Africa, and Belgium are the non-claimant and original treaty members. They all have made discoveries in the Antarctica and have been engaged actively

in the region before Treaty but at the treaty meeting they agreed neither for making any territorial claim not to accept others' Japan in 1951 through Peace Treaty agreed to forego any claim it had on the southern continent based on 1411-12 expedition.[41] Belgium was active in Antarctica since 1897 in various scientific expeditions but has asserted no territorial claim.[42] South Africa was an original signatory to the Antarctic treaty and has been in a Consultative Party member since beginning. But it has not made any territorial claim of sovereignty to Antarctica.

Other Consultative Members who are not the original treaty members, have also not accepted the territorial claims of seven claimant countries. China who joined the Antarctica Treaty on June 8, 1983 and became a consultative member in 1985, have not recognised the territorial claims. Like china, India who acceded Antarctic Treaty in 1983 and became consultative member same year, has also rejected the territorial claims. Similarly, Poland, Germany, Italy, Spain Sweden, Finland, and South Korea, all consultative members , now have not accepted any territorial claims in Antarctica.

Similarly Non-Consultative Parties have also not accepted any territorial claims in Antarctica neither they have advocated their own possible claims in future. This group has started its participation in the Antarctic activity very late and lack sufficient basis for making

their own territorial claims. Since Antarctica is now governed by a Treaty and as the member of the Treaty, they are restricted from making their own claims.

Non-treaty states which include most of developing states have accepted neither any of the territorial claims nor the maritime zones off the Antarctic coast. This group, of which Malaysia has emerged as a leader, is demanding structural change in the Antarctic legal regimes. The group believes that this last continent does not belong to the selected group of states (treaty members) who are managing the Antarctic affairs at present. But Antarctica should be accepted as a common property of all the states of the world. The benefits that could be derived from this wilderness should be divided among all the states. To implement this approach they are advocating establishment of a new international institution on the lines of International Seabed Authority.

But this approach is not supported by the Non-claimant States of the Antarctic Treaty. Claimant States are criticizing this approach even more vociforesly.

TERRITORIAL CLAIMS AND ANTARCTIC LEGAL REGIME

In 1959, twelve countries, actively interested in Antarctica, signed the Antarctic Treaty and thereby purported to establish control over the continent. Now 39 states have already acceded to the treaty which could be

classified into three categories for our purpose. Claimant states, potential claimants and non claimants. The Treaty has tried to preserve the interest of three different sets of states. The Treaty provides that it would not affect previously asserted claims to territorial sovereignty.[44] Thus it protects the rights of the claimants. The activities of contracting party would not become the basis for claims[45]. Thus it protects the interest of potential claimants such as United States who may have acquired in choate title but have failed to perfect such tittle [46]. For non-claimants it states that it would not prejudice the position of any party regarding its recognition or non recognition of any other state's right or claim or basis of claim to territorial sovereignty in Antarctica [47].

Treaty not only protect the present position of all parties, it also attempts to freeze all claims or basis of claims as they existed in 1959.[48]

As long as Treaty is in force no contracting party can assert a new claim or attempt to endange an existing claim.[49] However the effects of this provision upon termination of Antarctic Treaty are less than certain. The time limit of 23 June 1991 has already passed and any of the contracting party may ask for the review of the Antarctic Treaty.[50]

It has been argued that upon termination of the

Antarctic Treaty, the legal status of each of the parties will revert to the status quo as it existed in 1959[51]. However it is unlikely that clock will be turned back to 1959. Once a contracting party has withdrawn from the Antarctic Treaty, that party is no longer bounded to fulfill any obligation contained in the Treaty under otherwise required to do so under international law. There is no obligation under international law either to regain from acts of discovery or occupation in tera nullius, and the obligation under Art 4(2) could not prohibit the party from asserting a claim or from enlarging an existing claim upon the termination of Antarctic obligation.

However, international law does provide that the termination of a treaty does not affect any right, obligation or legal situation of the parties created through the execution of the Treaty prior to its termination unless otherwise provided for by the treaty or other agreement of the parties. [52] Thus the issue arise whether the Antarctic Treaty has created a legal situation in which Treaty members cannot use their activities during the effective period of the treaty to assert, support or deny a claim to territorial sovereignty after the termination of the treaty.

However the Paramount Court of International Justice in the legal status of Eastern Greenland Case, disregard an agreement freezing claims of sovereignty analogous to the one contained in Art (2) of the Antarctic Treaty. Hence the activities of contracting party in

Antarctica cannot be ignored and that could be used for establishing their territorial claims.

Thus Antarctic Treaty has not solved the problem of territorial sovereignty, but it has further complicated that. The Law of Sea Convention (LOS) has added another dimension to this problem.

UNCLOS III has raised the issue of "common heritage of mankind," which in a nutshell say that those areas which are beyond the control of any state and are of significant interest to the world in general should be governed by an international regime. Three possibilities could arise taking into consideration the UNCLOS convention, and Antarctica.

First, if Antarctica is accepted as terra nullius and there in an Antarctic treaty than Antarctica in open for, claims and provisions of LOS will apply.

Second, if Antarctica is tera nullius and Antarctic Treaty applies then in the absence of territorial claims UNCLOS will not apply and no state can draw Exclusive Economic Zone.

Third, when Antarctica is taken as res communis instead of terra Nullius then no state can make claims over Antarctica as it will become the part of Deep Sea-Bed and would be governed by the International Sea-Bed Authority.

Thus LOS convention does not solve the problem of territorial claims but it offers few options which are based on the issue of territorial sovereignty in Antarctica itself.

EXISTING MODELS FOR THE GOVERNANCE OF ANTARCTICA

We have seen that the present legal regime for Antarctica has not provided a dependable solution to the conflicting claims of territorial sovereignty in Antarctica. Other international laws have also not done much. On the other hand, interest in Antarctica is growing day by day and now it cannot be a forgotten continent at the bottom of the world.[54] This change in the management of Antarctica has been made by numerous interest groups.

Earlier we have divided interested states into three on the basis of their territorial claims. The last group of non-claimant states is arguing vociferously for the review of the Antarctic Treaty. All decisions about Antarctica is made by consultative members only, which are very less in number and they do not represent the willingness of majority of the states in the world.

For the management of Antarctica they have been suggesting various models as alternative to the present statement of territorial claims in Antarctica, at various international forums. Some of the models have also been suggested and supported by both claimant and potential

claimant states. Some of these models are discussed in the following sections.

Condominium Model

Its main idea is that sovereignty is divisible both as a matter of principle and as a matter of experience. International law recognizes the condominium model. In this case a piece of territory consisting of land or water is under the joint tenancy of two or more states. Several states could also exercise sovereignty jointly over Antarctica, and over the individuals living thereon. Great Britain and Egypt had condominium over Sudan before 1898 and 1956[55] respectively. In fact there was attempts for condominium of original Treaty states just before IGY 1957-58, excluding Soviet Union.

The idea of establishing a condominium[56] in Antarctica was as a possible solution put forward in that decade. The United States government tossed the idea in the mid - 1970s. United States government officially discussed an Antarctic condominium involving the original consultative parties in 1976[57]; Condominium model was also suggested at an informal conference composed of government representatives from ten Antarctic Treaty nationals held in Oslo in 1973.

Under the a condominium the existing consultative parties would draw up a separate treaty wherein they would

exercise joint and equal sovereignty and have sovereign rights over the continent and at sea. The consultative parties will make joint decisions in exploration and exploitation and share revenues. The Antarctic Treaty was planned be replaced by a condominium regime.

This arrangement has three advantages. First, joint sovereignty would provide political stability. Second, joint sovereignty could be considered as territorial claim and coastal states could draw their EEZ. Third, it would dissuade the rest of the international community from attempting to impose an interaction regulatory regime upon Antarctica. But in this arrangement claimers would not give up their claims and in a condominium some would exercise even greater power, and no party would be willing to sacrifice its potential claims. And thus no effective governing body exists which can impose its authority on individual members.

National Model

Under another model for resolving the Antarctic territorial claims in question, each state claiming a historical interest in Antarctica would assert its own territorial claim. But there is a danger that legal struggle to establish sovereignty would be a heated one, and could eventually result in military confrontations. However, there is a sound basis for asserting that the legal elements for establishing territorial sovereignty in Antarctica can

be met without resorting to violence. Assuming that the various nations overlapping claims and the disputes arising could be resolved under this approach. The approach would yield to the advantage of sound resource conservation and management that is derived from individual national ownership. Additionally, such an approach would reward the historically developed interest of those nations which have played an active role in Antarctica from the beginning by allowing them to profit from their foresight.

International Sanctuary

Some people are suggesting complete moratorium on all commercial activities in Antarctica and it should be designated as an International Sanctuary or Park. Precedents for such an approach include national reserves, natural world heritage sites[58], biosphere reserves[59], and specially protected areas (SPAs).[60]

Under this model consultative parties would declare Antarctica as an international park and ban all commercially exploitative activities. This arrangement is required because of extreme ecological sensitivities of the Antarctic environment. For example, Antarctica and Southern Ocean have very short food chain and excessive harvesting of krill could have devastating impact on every high order species in the food chain. Besides this an oil spill could cause extensive damage to the Antarctic ecosystem, as oil

degrades very slowly in the cold water.

Thus this model not only helps in maintaining the fragile ecosystem but also preserves the Antarctic Treaty and remove the question of territorial sovereignty. But looking at the prospects of living and non-living resources in the region acceptance of such model especially by claimant states, is very difficult.

No Exclusive Rights

The theory as proposed by United States says that Antarctica is equivalent to the "high seas", and therefore every state should have free access to Antarctica's resources.[61] In other words, no one should have any exclusive right over Antarctica and any country could go there and exploit the resources.

Only a technically advanced country could propose this kind of theory. It is well known that only the few countries have access and technology for operations in Antarctica. This is another kind of regulation for Antarctica where only few selected states could operate in Antarctica. Besides this discriminating approach of the theory, it negates the existence of Antarctica Treaty and also the claims of territorial sovereignty. A rule of free appropriation would undoubtedly favour the more technologically advanced nations and could lead to the depletion of Antarctica's valuable resources before

developing states could even begin exploitative activities. This would also damage the highly vulnerable environment of Antarctica beyond repair.

Common Rights

The common rights approach has its basis in the "common heritage of mankind" principle. The "common heritage of mankind" principle has four essential elements. (1) the area under consideration cannot be subject to appropriation. (2) all countries must share in the management of the region, (3) there must be an active sharing of the benefits reaped from the exploitation of the area's resources, and (4) the area must be dedicated to exclusively peaceful purposes.[62] In this approach all states would have common rights of access, common rights to the resources, common obligation to protect the Antarctic environment, and common restrictions to use Antarctica only for peaceful purpose.[63] Activities in Antarctica will be regulated by an international body. The principle does not prevent the exploitation of Antarctic resources by an individual state, if exploitation is the common interest of mankind and if an equitable distribution of benefits is ensured.[64]

This is the most favoured approach of developing states as it assures them benefits from this last continent. However, it goes against the will of the claimant states.

The Decolonization Principle[65]

In this concept, colonization has been compared with the territorial claims of seven states. There is no subjugation of people by aliens in Antarctica as it has only scientists that too, they are not natives of Antarctica. But as the claimed areas are far from the homeland, there is no affinity between the claimant states and the claimed territories. The extension of sovereignty in Antarctica is only for prestige and appropriation of natural resource. All there suggest a true colonial situation. And the only solution of this situation is by decolonization of the disputed territory, i.e. the claimant states should abandon their claims, just as a colonial power has the duty to free the colony from its domination. And after Decolonization, the continent could be converted into a global common.

Tempered Sovereign Right For Claimants

Under this model claimant states would enjoy a range of rights slightly short of sovereignty in their claimed sector. This approach has been based on Svalbard regime.[66] In this all claimant states could come under an agreement which would recognize certain administrative rights for claimants in their sector but all other parties consultative or non-consultative would have access to all parts of Antarctica for exploitation. The Revenue from possible exploitation could be shared by claimants and other administrative bodies made for the purpose.

The Territorial Regime[67]

In territorial regime for Antarctica, claimant states would have absolute control over their territory, unless specifically limited by agreement. The sovereign territories of Antarctica would be eligible for both a territorial sea and an exclusive economic zone. Within their territories claimants would be able to allocate resources as they see fit. Claimant states have seen it as the most favourable regime.

FUTURISTIC VIEW POINT

We have seen territorial claims of seven countries in Antarctica and their basis of claims. All other countries whether they are signatories or non signatories to the Treaty, do not recognize these claims. Inspite of the fact that two of the claimants United Kingdom and France, are economically and politically very active and influential countries, it is unlikely that claims would be accepted in future. Opposition from U.S. Russia, Japan, Germany, China, India, Brazil, Malaysia and other would not be easy for claimants to regate.

Although it is said that review of Antarctic Treaty would ignite the issue of territorial sovereignty but when all major countries are against claims, the issue would not be carried too far. However, the observance of any accepted model for the governance of Antarctica may create

further problems. The most appropriate model, after negating the sovereignty claims in Antarctica, in the present situation, would be the "International Park" or "The Common Heritage of Mankind." It could satisfy majority of countries. Moreover, it also provides for the exploitation of resources which could be utilized wherever need arises.

However it would not be easy for the participants to agree upon these models because of the existive gulf of view among claimants, consultative parties, developed countries and Third World countries. In such a situation the time tested solution could be utilized, as it had been done in 1959 and again in 1991. That is, Antarctica could remain as it is and solutions to conflicting issues could be postponed indefinitely. And in the mean time the continent could be utilized for scientific research and tourism.

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CHAPTER IV

THIRD WORLD PERSPECTIVE ON ANTARCTICA

THIRD WORLD'S INTEREST IN GLOBAL AFFAIRS

The Third world as we know it today in the operational terms of international organisation and in international diplomacy is an uneasy amalgam of the independent states of Asia, Africa, Latin America, the Caribbeans, the Pacific Islands; the Mediterranean and West Asia (the Middle East).

However it is believed that the term 'Third World' was first coined by the French demographer Alfred Sauvy (tiers monde in French) in 1952.[1]

The important characteristics of the Third World countries is marked by a number of common traits like distorted and highly dependent economies devoted to the production of primary products for developed world and providing market for their finished goods; traditional rural social structures; high population growth and widespread poverty. Most of these are the result of their colonial past.

The most significant stage on which the Third World is performing their global political activity is the United Nation. Since 1960's when the American hold on General Assembly was broken by admission of so many

countries and now it has become increasingly the preserve of the Third World countries.

However, United Nations is not the only organisation where the Third World have been politically active. They have organised themselves at other forums also to popularise their point of view. Non-Aligned Movement and Group of 77 are among important Third World organisations. In Africa, Organisation of African Unity (OAU) was founded to voice the exclusive problems faced by them. No similar attempt has been made in Asia. There have been limited efforts in the form of ASEAN, SEATO and CENTO but these have been largely expressions of western policy rather than natural grouping of neighbouring states.

In general the Third World have realised that they can not compete with developed countries in terms of economic and military power. Hence they have turned to their greatest asset, their number and they have begun the use of their collective power in an attempt to alter the legal framework in which they must operate. In recent Earth Summit 1992 at Rio they have pressurised developed countries to pay more for cleaning the environment as they have greater share in the pollution of global environment.

However, dominance of major powers still continues as the Afro-Asian countries and their Arab and Latin American associates have been unable to change the flow of

trade and economic benefits in the ways suggested by them in their campaign for New International Economic Order (NIEO). Similarly, their motion on armament and on the use of nuclear weapons have made little impact on the Superpowers.

In sum the position of the Third World countries as a group is weak. They are divided on most questions. Their resources are not great and it is hard to muster them. They have been given superficial equality in diplomatic terms, and encouraged to set up cooperative arrangement amongst themselves and to present solutions to world problems. They are pushed aside when the major issues are being considered. They may not be wholly ignored but their opinions are sought as incidental. However, the fact that they exist in such a large number is of genuine importance in the world politics.

THIRD WORLD'S INTEREST IN ANTARCTICA

Until Second World War the so called Third World countries were represented in Antarctica by only Argentina and Chile. These two maintained their interest in Antarctica because of their geographical proximity to the icy continent. Antarctica was seen not only as a source of marine resource but it also had security implications for the two countries.

Since Second World War more and more Third World countries have shown interest in Antarctica. With the

development of technology, the knowledge about this new continent had increased. At the same time after second world war number of independent Third World countries have increased and with their economic development these countries have now become bold. They have started presenting themselves at international forums with greater vigour.

As the prospects of economic resources increased from Antarctica, Third World countries also thought of deriving some advantage from the continent. The lack of technological know how prevented these countries to involve themselves directly into Antarctica. They were aware of the fact that they cannot compete with the developed world in technology, economic strength or military power. At the same time they could not wait for their technological advancement. As of that time the whole of the continent could have been colonised or hardly any resources would have been left by that time. In this situation without investing much in the continent the Third World is trying to preserve something for themselves.

As the first attempt the Third World countries tried for internationalization of Antarctica by bringing it within the perview of United Nation. India was the first Third World country to initiate this debate in the UN in 1956, however, it was compelled to withdraw its resolution later. After India, New Zealand also tried for the same

next year but failed. After 1959, Antarctic Treaty Consultative Members have tried to keep Antarctica out of the UN. The Consultative Parties have remained anxious to preserve the UN's nonrole in the region and this attitude led the 1964 Consultative Meeting to decide against any action upon a British proposal to clarify the treaty system's relationship with international organisations.[2] Similarly, the 1972 consultative meeting failed to respond positively to New Zealand's revival of the UN trusteeship proposal.[3]

During 1970's Third World countries interest was growing in Antarctica's resource potential. And it was this interest that led into the advocacy of a more equitable approach towards decision making and the distribution of resource benefits. In 1976 Guinea requested FAO to press the case for an alternative international regime beyond the Antarctic Treaty. Thus it encouraged the governments to question the validity of the existing Antarctic arrangement which allow little input from the outside world. There was a brief discussion at the 1976 Non-Aligned conference held at Colombo, where the Sri Lankan delegation drew attention to the importance of reconciling the management and utilisation of the resources south of $45^{o}S$ for the interest of international community. All these symbolised the manner in which validity of the Antarctic Treaty was questioned by the Third World countries. They presented it as a by product of colonial era. It was argued that the treaty

having been concluded without their participation was being undermined by changing politico-legal concepts centered upon the New International Economic Order (NIEO) and the common heritage of mankind doctrine (CHM). The basic philosophy of NIEO is derived from the injustice and widening gap between the developed and developing countries.

For these radical thinkers Antarctica became a suitable problem which required treatment through the active and equal participation of the developing countries in the formulation and application of all decisions. The political impact of the NIEO was reactivated by the common heritage principle which resulted in efforts to identify Antarctica as a common space or a global common.

In 1975 Shirley Amerasinghe, the Sri Lankan President of the UNCLOS while speaking to the General Assembly hinted towards the application of common heritage doctrine to Antarctica. Again in 1978 Sri Lanka in UN predicted that the Antarctic is ripe for conflict. It proposed that UN action should comprise the creation of a committee of the consultative parties and fifteen other states to advise the General Assembly.[4] During September 1979, Alvaro de Soto, a peruvian diplomat and UNCLOS spokesman for the Group of 77 launched a strong attack upon the secretive and exclusive Antarctic Treaty System, which he linked to a form of international apartheid.

Besides, there was a danger that the introduction of the Antarctic issue would not only complicate the discussion but also threaten the prospects of success of UNCLOS. There was a possibility that certain Consultative Party might have withdraw from the talks rather than compromise their legal rights to Antarctica. However, by that time Consultative Members had realised that in future they will no longer be able to make effective decisions about the peaceful development of Antarctica without steadily growing opposition.

Against this background at the UNCLOS signing ceremony during 1982 inspired some delegates to urge that it is time to focus our attention on another area of common interest that is Antarctica. Where immense potentialities exist for the benefit of mankind.[5] Tanzania and Malaysia were among the first to raise this issue. During 1982-83 Malaysian government emerged as leading advocate to speak against the Antarctic Treaty System. In a way Dr. Mahathir Mohamad of Malaysia provided leadership to the movement which was lacking till then.

India which was considered leader of the Third World countries decided to fight for the group from within the Treaty System and acceded to Antarctic Treaty. However Malaysia decided to work from outside.

The matter was again raised in seventh Non-aligned summit meeting at Delhi where 99 governments were

represented. It mobilised support for Malaysian initiative and it gave increased international visibility for Antarctic matters.

In this manner, Antarctica emerged as a significant international issue, even for governments which had taken no previous interest in the continent. For example, certain African and Caribbean governments assumed a close interest on the topic and the governments of Antigua and Barbuda became Malaysia's leading supporters. As a result Antarctica was discussed at both the OECD and CARICOM meetings held in May and June 1983 respectively.[6]

The major attack by the Third World on ATS was on its inequality approach. Very few countries were its members and among members also not all are equal. Third world depicted the Antarctic Treaty System as a kind of rich man's club which is not only incompatible with present day international system.

Although there was general stress upon the inequities of Antarctic Treaty System. The Antiguan government introduced a further dimension to the international debate on Antarctica on the validity of the membership of South Africa in ATS.

The momentum of the campaign to involve the UN during 1982-83 made the consultative parties active in putting diplomatic pressure on the Third World. However

individual and collective efforts made during 1983 by consultative parties failed to deter Malaysia and its supporters. On the support from Algeria, Pakistan and Singapore, Antarctica was placed on the agenda of the forthcoming General Assembly.[7] In United Nations General Assembly Antigua and Barbuda asserted the importance of upholding the CHM principle especially in the context of the narrow basis of Antarctic division making and of the alleged failure of the consultative parties to consider the Third World interests. This theme was developed by Zainal Abidin (Malaysia), who pointed to the democratisation of decision making on the international scene and to the fact that the world of 1959, when the Antarctic Treaty was first formulated, is different from that of 1983.[8] This approach of Zainal Abidin was support by other Third World countries like Bangladesh, Bhutan, Egypt, Ghana, Jamaica, Libya, Philippines, Sierra Leone, Sri Lanka, Sudan, Tunisia, Yugoslavia and Zambia. The main thrust of the critics was in favour of an UN study on Antarctica as a first step by the international community. However, these was some disagreement about the ultimate objective.

Malaysia proposed a new international regime for Antarctica in place of 1959 Treaty[9] which was supported by Pakistan. On the other hand, Antigua and Barbuda had a limited aim that is they does not seek to tear up the Antarctic Treaty but desire new perception and reform within

the Antarctic Treaty System.[10] Nevertheless, Antigua's desire to open up the system was qualified by its demand for South Africa's immediate expulsion from membership in the Consultative Group.[11]

On the persuasion of the Third World countries UN made a study on Antarctica which was presented in UN in 1984. While discussing the report once again the critique was led by Antigua and Barbuda and Malaysia. Other Third World countries also followed them and placed special emphasis upon participation most notably the system's exclusivity and including of South Africa and management of resources in the context of the common CHM. However, perhaps the strongest attack upon the Antarctic status quo was launched by Gbeho of Ghana who argued that Ghana cannot and will not continue to accept the present situation, and he reserves his government's right to oppose any mineral regime.[12]

All these symbolised the manner in which validity of the Antarctic Treaty was questioned by Third World countries. They presented it as a by product of colonial era. It was argued that the treaty having been concluded without their participation was being undermined by changing politico-legal concepts centered upon the NIEO and the CHM principle.

COMMON HERITAGE OF MANKIND

Concept Development

Until 1950s western economic thought and growth model worked as the guiding principle for the Third World countries. Neo-classical economists pointed to the benefits to be gained by rising industrial nations of the eighteenth and nineteenth centuries from foreign trade. But the Third World countries soon realised that they are not experiencing the proposed benefits and terms of trade is shifting in favour of developed countries.

Third world countries also organised themselves out of the UN to struggle against prevailing norms. The Group of 77 was established in 1963 and NAM to pursue a triple progressed program to correct the perceived inequities of the international economic system. First they proposed preferential trade arrangements that favour developing countries and that stressed the concept of economic self-development. Secondly, for immediate economic and political results many developing countries opted for nationalization. Thirdly, the developing countries have attempted to reshape the economic system by structuring the legal regimes pertaining to areas outside the traditional jurisdiction of states. It is this third effort that the CHM has emerged as a concrete proposal to reverse the current trend of appropriation.[13]

It is difficult to pinpoint the moment when the notion of CHM emerged. However, common heritage concept began to draw global attention during 1960's when a number of nations used the forum of the United Nations to advocate the common property ownership and shared economic use of the deep seabed and outer space. The most sited instances when the concept of CHM was proposed is the speech of Arvid Pardo of Malta. He argued that the deep seabed and its resources are the common heritage of mankind and further that the exploitation of its resources shall be carried out for the benefit of mankind as a whole irrespective of the geographical location of states whether land-locked or coastal and taking into consideration the interests and needs of the developing countries.[14]

On the basis of speech by Ambassador Arvid Pardo of Malta, others five principle elements have been identified which constitute the CHM doctrine as applied to global commons. First under CHM doctrine common space area would be regarded legally as regions owned by no one though hypothetically managed by every one. Secondly it follows that all people would be expected to share in the management of a common space area.[15] Thirdly if natural resources were exploited from a common space area any economic benefits derived from those efforts would be shared internationally.[16] Fourth important element in a CHM regime maintains that use of the area must be limited exclusively to peaceful purpose. And finally scientific research would

be freely and openly permissible so long as the environment of the common space area was in no way physically threatened or ecologically impaired.[17].

Application of CHM Regimes

As a legal notion, the CHM has been formally applied in treaties to proposed international regimes for governing activities of states on Outer Space, Moon and Deep seabed, Antarctica and other extra celestial bodies.

The common heritage principle was also endorsed in the first Treaty on Outer Space which was adopted by the UN General Assembly in 1967. When the treaty was adopted it was widely believed that it safeguarded the interests of all countries in outer space and that it established the whole of space as a common heritage of mankind. This belief stemmed primarily from a lone provisions in the treaty article 1(i) which state that the exploration and use of outer space including the moon and other celestial bodies shall be carried out for the benefit and in the interest of all countries irrespective of their degree of economic or scientific development and shall be the province of all mankind.[18]

From the beginning states are interpreting treaty according to their convenience. Moreover only part of 5 elements of common Heritage Doctrine is satisfied by Outer Space Treaty. Art. 4 limits the use of outer space to

activities with peaceful purpose. Art. 2 of the treaty prohibit only the appropriation of areas of outer space and is silent on the appropriation of resources. Thus treaty neither provides for international management nor for sharing of resources the factors distinguishing the CHM from the res communis concept.

In 1979 another outer space treaty, known as the Moon Treaty[19] was adopted which integrated the concept of CHM into the treaty comprehensively. As Art 11(5) provides that an international regime, would be established to govern the exploitation of the natural resources of the moon and another article 2 (7) (d) calls for an equitable sharing of the benefits derived from the natural resources.

However it was also not an ideal treaty that could satisfy all the requirements of CHM concepts. The international controversy over CHM got boost in 1980s as the United Nations Conventions for the Law of the Sea 1982 (UNCLOS) was passed in UN and from 1983 debate on Antarctica started in UN. After fourteen years of negotiations in United Nations, UNCLOS provided that entire ocean floor beyond a designated 200 nautical miles national jurisdictional limit know as as EEZ to be the CHM. Formally the International Seabed Authority (ISA) has been established to implement its procedures. A global revenue sharing plan has been also created so that all nations would receive a share of mining revenues as common property

owners of the ocean floor.

Thus concept of CHM has been used in the treaties dealing with unoccupied areas. This shows the willingness of the world community to implement CHM doctrine. But as these treaties has not been ratified by all major states it makes position of CHM weak. However, popularity of CHM is increasing day by day and in near future more and more areas are expected to be brought within the perview of CHM doctrine.

Since 1982 efforts has been on to bring Antarctica in CHM doctrine. However unlike outer space and deep seabed there is already governance regime in Antarctica the Antarctic Treaty System and sovereignty claims of seven states have complicated the applicability of CHM to Antarctica. Besides these there are number of provisions within the A.T.S. which coincides with CHM principle, e.g. in Antarctica scientific information is exchanged freely; it has been declared a nuclear weapon free zone; it is a continent of peace without military activities; here sovereignty claims has been buried in snow for the time being; and so on.[20] Inspite of all these A.T.S. does not represent the world community as a whole as only few states have acceded to the A.T.S. and among them also, not all the members have equal status. The question of sovereignty claims have also not resolved.

In view of this situation a number of developing nations initiated the debate on Antarctica in UN with the hope of extending the world CHM Principle to the continent.[21] Malaysia, a leader in the debate, pointed out that Antarctica as a common heritage of mankind, required a regime that is truly universal in character and committed to the interest of the entire international community particularly the needful ones.

At about the same time partially in response to the UN debate the members of A.T.S. began formal negotiations directed towards the preparation of a framework for possible future exploration and development of Antarctic mineral resources. Negotiations culminated on June 2, 1988 with the adoption of the A.T.S. Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA). This convention ignores the principle of CHM as it does not provide for a United Nations role in mineral planning nor does it contain a global revenue sharing plan where by all nations would share in mineral revenues as common property owners of Antarctica.

Furthermore, there is concern that CRAMRA may fail to meet its objective of a stable political climate for minerals development and instead may lead to a completely opposite outcome. However before this convention could be ratified many states started opposing it. During May - August 1989, the governments of Australia and France both

original signatories to Antarctic Treaty as well as claim out states announced their opposition to CRAMRA and their support for a 'World Parks', supporting no mining regime in Antarctica. And finally Eleventh Special Meeting of Consultative Parties of ATS has decided in June 1991 that mineral exploitation would be banned for next 50 years. Thus CHM doctrine cannot be said to have been applied to Antarctica as such.

SELECTIVE THIRD WORLD STATES' VIEWS

Malaysia

Among Non signatories of ATS, Malaysia has proved the most prominent and articulate. Malaysia, supported by several other governments has acted individually and collectively through the UN and Non-Aligned Movement in an attempt to widen the process of Antarctic decision making beyond the allegedly selected and exclusive group of treaty powers, a demand justified on the basis of both new political and legal concepts.

Malaysia was among first to demand application of common heritage principle in Antarctica.

Antigua and Barbuda questioned the close door meeting of Antarctic Treaty System. Malaysia government like others jointed Antigua and Barbuda in complaint about closed door meetings especially of mineral negotiations and also stressed that between 1961-83 not even the acceding

states were allowed to attended consultative meetings.[22]

It believe that the major deficiency of the current system is that decisions are made exclusively by Consultative Parties. This privileged status is not acceptable to international community today.[23] This approach attracted support from other delegations including Ghana whose primary concern was to ensure the establishment of broader international cooperation and participation of all nations in the control and exploitation of the resources of the region for the benefit of all.[24]

On the issue of membership the Malaysian Government believed that south Africa an International outlaw because of its apartheid policies should not be involved in the management of Antarctica.

For more than ten years ATS is trying to develop a mineral regime which would regulate mineral related activities in Antarctica. Consultative Parties have given considerable importance to external accommodation with the international community as a whole. As it will provide international acceptance to their regime.

During UNCLOS meeting Malaysian government emerged as the leading advocate of an UNCLOS inspired, UN based alternative to the Antarctic Treaty System. In fact Malaysian Prime Minister Mr. Mahathir Mohamad provided something which the critical lobby had lacked hitherto, that

is leadership, consistency and strength of pressure and a clear sense of purpose.

Unlike India Malaysian government decided to act from outside through a well orchestrated campaign to make other government and international organisations aware of their case.

However, Malaysia's first real move on the subject occurred a few month prior to the UNCLOS signing ceremony. Mahathir launched his campaign on 29 September 1982 in a speech delivered to the UN General Assembly where he stated that all the unclaimed wealth of this earth must be regarded as the Common Heritage of all the nations and that this is the time that United Nations focus its attention on Antarctica.[25]

At the seventh Non-Alighned summit Meeting held at New Delhi 1983. Mahathir secured the backing of the Non Aligned Movement (NAM) for the universal cooperation on Antarctica under the umbrella of United Nations.[26] However, in the final declaration for the heads of state and government of NAM only a comprehensive study of Antarctica was noted. It is mainly because of presence of Argentina in NAM.

Among non Treaty members Malaysia is most active in Antarctic politics. Malaysian efforts are laudable. As it could have also joined the Treaty like India and China to

get research facilities from developed countries, but it decided to fight for a greater goal. That is to lead the Third World countries for getting their due share in Antarctica.

India

During 1950s intense rivalry was going on international politics between two Super power groups. Realising the danger of Cold War being extended to the Antarctica, and it could become the site of nuclear explosions, India tried to bring the continent within the perview of United Nations. In May 1958 Prime Minister Nehru informed the Indian Parliament of his desire to prevent Antarctica becoming the scene of chaos, especially as the wider context of the Cold War rendered the continent a potential site for test of nuclear weapons.[27] The Indian government advocated the peaceful utilisation of Antarctica to ensure that it shall not be used in any manner that would create or accelerate world tension or extend to the area the +influence and effects of existing tension.[28]

However two Indian attempts in 1956 and 1958 to bring Antarctica on the UN General Assembly's Agenda failed because of lack of support from countries involved in Antarctica. And also because Antarctic Treaty negotiations were going on.

India was among one of the few other countries, outside the ranks of the twelve Consultative Parties, to display any real interest in Antarctica and it was tempting to assume that India's post 1959 failure to revive the 1956 and 1958 attempt to place antarctica upon the agenda of the UN signified acceptance of the Antarctic Treaty. It is also because, Treaty meets the basic objective of peaceful use of the continent. To some extent this interpretation could be concluded from the article of Ahluwalia (1961) who praised the treaty as a contribution to disarmament and world peace.[29] However in 1974 another author S,C, Jain identified glaring drawbacks in the 1959 Treaty and asserted that Antarctica should be controlled by the UN in conformity with the wider community expectations.[30] The absence of governmental statements on the Antarctica makes it difficult to evaluate how far Ahluwalia and Jain reflected official Indian thinking.

Till 1980s the priority of the Antarctic problem had been low for third world countries and it proved easy for the consultative parties to question the strength of the critical lobby.[31] However, early 1980s saw a growth of interest by developing countries in Antarctica. In 1981 India send its first expedition to Antarctica. This gave impetus and strength to third world countries.

India as a leading member of the non aligned movement was adjudged to be a positive asset on account not

of its recent activities in Antarctica but also of the belief that it had a close links with the developing world and had proved at time an advocate of a UN role in Antarctica.[32] Against the general belief of the third world countries India decided to joint the Antarctic Treaty System. It was a blow to the movement of developing countries. On the other hand for consultative party it was a relief as, a leading member of third world has supported the ATS and it would not be easy for India to support the demand of revision of treaty. They were cautious also as new comer may decide to disintegrate the ATS from within.

However, India's decision to join treaty was based on the following considerations: that India will be able to exchange scientific information with other members of the Treaty, that India would be able to participate in the meetings of the consultative committee and would be able to project effectively its own views as well as those of Non-Aligned countries.[33]

India after acceding to the Treaty has totally accepted the ATS. As it described ATS as an evolving institution whose structural and organizational framework is conceived in a flexible manner which is gradually evolving further, taking into account the legitimate concerns of all.[34] It does not consider ATS as an exclusive body but as an open system which is gradually evolving further.

This change in Indian policy is most unfortunate from the point of view of third world countries. They lost a member which had fought for their right at different levels. From this act India lost its credibility among third world countries atleast in reference to Antarctica. India had told earlier that it will work for the advantage of third world but till now it had not achieved any thing substantial which could satisfy them. Thus this is the time India should forget about short term gains and identify its long terms and wider goals in the interest of Globe.

FUTURE OF THIRD WORLD IN ANTARCTICA

CHM is presently more of an emergent principle or proposal than a widely accepted pillar of international law. As it does not satisfy the basic conditions that an international law should have. Only few treaties have used this principle and that too not very effectively. Moreover absence of any international government with political authority to determine international law have also restricted applicability of CHM principle.

It seems that it is very unlikely that CHM doctrine will be able to enter icy continent as long as ATS continue to be a dominant political force in Antarctica. It may continue like this as long as ATS members can continue their past performance of reaching unity on important treaty matters.

The situation is changing very fast. UN Antarctic debate has prompted the Antarctic Treaty nations to become more open in their conduct of political governance of activities by allowing a greater participation in ATS. The debate has helped in increasing attention to the global environmental importance of Antarctica. It has also internationalised the Antarctica and has encouraged the Third World states to show its interest in this continent. The politico-economic interest of developing nations are likely to remain closely associated with Antarctic mineral resources. Much depends on the developing states of ATCPs, (Argentina, Brazil, Chile, China, India, North Korea, Peru and Uruguay) whether they will be willing and able to pursue policies within the treaty system that will adequately represent not only their own interest but the interest of Non-Treaty developing nations as well.

The current prohibition on mineral exploitation for fifty year could not be taken as the victory for the advocates of common heritage principle But it is enough to give Third World states relief and sufficient time to popularise the principle and to present themselves in an organised way. This is also the time to extend CHM to other conflicting issues. Environment is taking precedence over other things as has been shown by latest decisions in A.T.S. to protect Antarctic environment. Global environment, inclusive of Antarctica and the atmosphere, should be treated as common property of all mankind. In other words

the global environment would be a global public goods, owned by all nations.

Under these conditions international agreements related to the environment would become more meaningful in an economic sense and hopefully easier to negotiate and implement in a political sense if the global environment is perceived as a common property resource belonging to all nations and their citizens as the Common Heritage of Mankind.

If above scenario should occur the Common Heritage Principle could serve as a meaningful force for both the economic growth of developing states as well as for the general welfare of the citizens of all nations.

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CHAPTER V

CONCLUSION

Very little was known about Antarctica a century ago and to very few people. The situation did not change much till the second World War and in 1959 hardly a dozen country were active on a very limited area of Antarctica. Since then more and more countries are getting themselves involved in the continent. At the end of 1991 there were 39 countries who have signed the Antarctica Treaty of them 26 are consultative members. Besides these, there are many other countries who may not be doing any active work there but and are raising the issue of governance of Antarctica at various international forums, like Malaysia, Antigua and Barbuda. Discussion at various levels about the continent has increased the public awareness, which is also reflected by the number of tourists visiting Antarctica every year.

UN has played a greater role in publishing Antarctica to general people, since 1983 General Assembly has discussed it one or the other way. Antarctic legal Regime which manage activities in its areas have successfully kept it peaceful and free from nuclear weapons. It has adopted to the changing need of time. Recently it has been trying to negotiate mineral issues. Till now eleven special Antarctic Treaty Consultative Meetings have discussed the issue and have produced the Protocol on

Environmental Protection to the Antarctic Treaty. These results were also discussed at the sixteenth regular meeting of the Antarctic Treaty Consultative Parties at Bonne in 1991. Because of the strong opposition from the Third World, lack of agreement among consultative members and emergence of influential environmental lobby, mineral exploitation in Antarctica has been restricted for atleast coming 50 years.

Territorial claims and resource exploitation are two disturbing elements in the continent which are at the basis for the contemporary geopolitics of Antarctica.

Antarctica is full of various types of resources. Many types of minerals presence has been found there. In marine resources, krill from Antarctic waters is considered one of the best source of protein. Whaler and seals are other important marine resource. Antarctica is the largest store house of fresh water which could be utilized for human consumption. However at present technological level it is not feasible economically to exploit the mineral resources lying buried beneath 2000 meters thick solid ice. Marine resources are under exploitation according to various legal regimes taking into consideration the delicate ecological balance of the region. But there is greater environmental degradation attached to the exploitation of non-living resources which ultimately may affect living resources. In general, developed countries are in favour of commercial

exploitation of Antarctic resources. On the other hand developing countries do not want to exploit these resources themselves but do want a share in it. Yet another group consisting mainly on non-governmental organisations are in favour of preserving Antarctica as an "International Park" and try to keep Antarctica away from the United Nations. On the other hand the Third World countries led by Malaysia, Antigua and Barbuda have criticised the exclusivity and limited participation especially of the third World, in the Antarctic affairs. So they are trying to internationalize Antarctica by bringing it within the UN control.

Prior to the Antarctic Treaty seven countries had made territorial claims, covering about 85 percent of the area, mainly based on the principles of effective occupation. Now new claims have been banned by the Treaty. However, United States and erstwhile Soviet Union was considered potential claimants as they also have sufficient basis. Brazil, Uruguay and Peru can also be interpreted as other potential claimants if judged from their writing on the subject. Rest of the countries do not accept these claims neither they have made their own claims. Among them non-treaty members. or the Third world countries are totally against the Antarctic Treaty and they have proposed their won claims on the whole of the continent in the form of "International Sanctuary" model or "Common Heritage of Mankind" model.

Third World is the most exploited, neglected and poor group of countries which have recently started organising themselves. There presence is already felt in the United Nations. There view points are known to the world through Non-Aligned Movement, Group of 77, Group of 15, Organisation of African Unity etc. They are very well known their weakness also but they also recognize their numerical strength not only in terms of countries but in terms of population also. Their main concern these days is restoration of the New International Economic order in Antarctica as it is represented in the form of "Common Heritage of Mankind".

The world countries are not satisfied by the present Antarctic Treaty System as in all these negotiations they have been excluded and as it provides no hope for them to get any benefit from the Antarctic region. To secure their interests inspite of their inability to do much, they have proposed the implantation of "Common Heritage Doctrine," which provides for sharing the benefits among all countries of the world.

In Antarctica environment gets precedence over every other matter. Fragile nature of environment and its delicate ecological balance between different levels of organism with very short food chain has been already identified. Second, in Antarctica water of three other oceans meet. Antarctica because of its geographically

strategic location affects the climate of a larger part of world, at the same time it also get affected by environmental changes in rest of the world. Increase of carbondioxide and cloroflorocarbon gases in other parts of world may melt the Antarctic ice and inundate large part of coastal areas of the world and may create ozone hole over it respectively. Thus environment of all the places are inter-linked and to save Antarctica we have to protect environment of not only Antarctica but also other places also.

Number of legal measures have been taken throughout the world to safeguard the environment. The Earth summit at Rio, June 1992, is one effort in the same direction. In all, Antarctic legal provision have been made to preserve environment and if the measures found to be less effective, further stringent measures were taken for specific items.

Recently, XIth Antarctic Treaty Special Consultative Meeting have agreed on a protocol on "Environmental Protection" with an objective to consider Antarctica as a natural reserve, devoted to science. For the protection of the Antarctic environment and dependent and associated ecosystems it proposes to regulate and plan human activities to avoid negative effects on climate to prohibit any activity relating to mineral resources other than scientific research to have efficient system of environmental impact assessment, to establish a committee

for "Environmental Protection" to provide advice and formulate recommendations and to ensure compliance with this protocol, Consultative parties should arrange inspections. This protocol will supplement already existing measures for environmental protection.

Need for mineral regime was discussed in 1970 for the first time in the Consultative Meeting in Tokyo. And since then it is regularly discussed in every Consultative Meetings. Since 1982, ten special consultative meeting on Antarctic minerals have discussed four draft of Chrisopher Beeby, the chairman of the negotiations. The last draft was discussed in 1988 at Wellington and has been finally accepted also but is not yet ratified by all the signatories. The Antarctic Mineral Resources Commission is the central institution for the evolving a mineral regime. The decision of course, would be taken by a majority vote. The commission will consider the requests for opening areas in the Antarctic to mineral exploration and development, identify the area and specific minerals to be explored and to ensure the adoption of safe and effective mineral exploration and development techniques. Second institution of the mineral regime is Regulatory committees which is responsible for overseeing and regulating proposed mineral exploration and development activities. A separate regulatory committee is proposed for each specific geographic are a identified by the commission.

All parties to the mineral conventions are members of the Scientific, Technical and Environmental Advisory Committee which will be an advisory body only. In other provisions of regime it provide three stages of mineral activities prospecting exploration and development. For dispute settlement the parties to the dispute can meet and attempt to settle the dispute peacefully - by mutually agreed means they could go to either International Court of Justice or to the Arbitral Tribunal.

Shortly after the June 1988 signing of the Mineral convention, there were doubts about its ability to protect the environment. France was the first country to withdraw support from the convention which was followed by Australia. On the other hand, Italy, India, Belgium and East Germany had abstained form signing the Mineral convention. But United States, United Kingdom, Norway, New Zealand etc. are supporting the convention. It looks that just like other drafts of Beeby this draft is also rejected by the members. As the eleventh special consultative, meeting for minerals discussed and proposed a protocol on environment which prohibits mineral exploitation for commercial purpose.

Developed countries have the resources and technology to go up to Antarctica and do scientific research there, and infact they were first to go there. Based on their explorations some of them made territorial claims, but their other powerful colleague rejected and finally all of

them arrived at a treaty which restrict areas of the continent to only technologically advanced countries. They opposed very strongly the efforts of the Third World countries to internationalize it. When the Third World demanded share in the benefits of Antarctica developed Consultative parties preferred to freeze commercial benefits rather sharing it. Developed countries argue that every one is free to derive benefits from Antarctica under governing legal regimes, but they are very well aware that developing countries would never be able to do it. Thus developed countries have developed such a system where there is hardly any scope for the Third World poor countries.

On the other hand, the Third World have already understood the plan of developed countries to marginalize them. Now when world has almost become unipolar, the Third World have to organise themselves in a may to produce another pole to balance international geopolitics. It is in this background that they have to derive benefits from Antarctica and have to participate in all Antarctic affairs. The Third world countries who have joined the Antarctic Treaty like India, China etc. must be persuaded to work for the advantage of whole humanity which is possible only when all interests are given due respect including that of the Third World interest.

Thus the future of Antarctica lies in the mutual co-operation of developed and developing countries.

Antarctic environment must be preserved and when me were hard pressed for Antarctic resources, sustainable development approach could be followed. However, at present, Antarctica could be utilized for tourism purpose which could be managed by an international institution no profit no loss basis. An international conference on Antarctica exclusively, like the one at Rio, could bring to us, clearly the intentions and plans of the world nations for the development and preservation of Antarctica. Antarctic geopolitics is mainly one of Antarctic natural resources, so analysis of exact resource potential is unavoidable for predicting any futuristic governance plan for the continent, so that it could be restricted to be utilized mainly for peaceful purposes.

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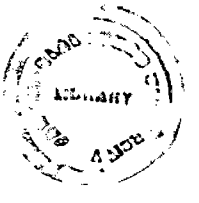

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