

THE ANTARCTIC: NEW CHALLENGES FOR INTERNATIONAL LAW*

The 1959 Antarctic Treaty has been one of the most successful treaties negotiated this century. It froze some difficult issues and created a base upon which the international scientific community could operate despite international political tensions on the rest of the globe. Unfortunately the Antarctic is now being drawn into international political disputes.

The object of this article is to outline the 1959 Antarctic Treaty and then to look at the current work to fill two "gaps" in the Treaty.

THE 1959 ANTARCTIC TREATY

The Antarctic Treaty was drawn up during the cold war. The previous year had been declared by the United Nations as International Geophysical Year and there had been much scientific co-operation in the Antarctic. The scientists were able to get along with one another even if their respective governments could not. The scientists wanted to have this spirit of co-operation enshrined in a treaty so that it could be perpetuated.

The Treaty recognises "that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord". Its main provisions are as follows:

1. Antarctica is to be used for peaceful purposes only. All measures of a military nature, including the testing of weapons, military manouvres and the establishment of military bases are banned, but use of military personnel or equipment is allowed for scientific or other peaceful purposes.
2. Freedom of scientific investigation in Antarctica and co-operation towards that end shall continue. Scientific plans, observations, results and personnel are to be freely exchanged.

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3. The legal status quo is frozen. Previously asserted rights or claims for territorial sovereignty are unaffected (see Annex). Nothing done while the treaty is in force can constitute a basis for asserting, supporting or denying any territorial rights. New claims or enlargements of existing claims are banned while the treaty is in force.
4. Nuclear explosions and disposal of nuclear waste are banned.
5. Appointed observers from consultative Treaty powers have the right of access to any area and may inspect all stations, installations and equipment by air or on the ground.
6. Full consultative membership is reserved for the original 12 signatories plus any "acceding" state during such time as it demonstrates its interest by conducting substantial scientific research activity there, such as the establishment of a scientific station or the dispatch of a scientific expedition (see Annex). Acceding membership is open to all members of the UN or to states agreed to by all consultative parties.
7. Full members are to meet periodically to exchange information, consult on matters of common interest and formulate, consider and recommend to their governments measures to further the ends of the treaty.
8. Recommendations are only effective when approved by representatives of all the governments who were present when they were discussed.

The 1959 Treaty is an important part of international law. First, it created the world's first nuclear weapon-free zone. Second, it guarantees freedom of scientific investigation and co-operation among the participating nations.

Third, the Treaty got around the problem of competing claims to parts of the Antarctic territory: it froze them. During the past

century, various claims have been made to most of the Antarctic. Three nations actually have overlapping claims (the UK, Chile and Argentina). Other nations do not recognize any of the claims at all (the United States and Soviet Union).

Finally, the Antarctic may not be used for nuclear explosions or the disposal of nuclear waste. The treaty does not prevent the establishment of a nuclear power station. The United States tried to establish one, but it failed and as soon as the station was decommissioned it suddenly became nuclear waste and so prohibited by the Treaty. The station and ground on which it stood all had to be transported back to the United States at almost the same costs as the original installation costs.

The Treaty has many advantages. It was drafted at a very difficult time in international relations because of the cold war and so it is amazing that anything was written at all. It contributed to the international movement for arms control. It has avoided embarrassing political divisions over land claims and there have been no new claims made. The Treaty has halted potential super power rivalry in the area. The Treaty was unusual in that it created some international machinery for its implementation. The Treaty, by its consultative arrangements and mutual obligations, created an international system for enforcement. But, by the standards of the 1980s, these fall short of contributing some form of environmental protection agency.

LIVING RESOURCES

The 1959 Treaty had two omissions, which did not seem too serious at the time: specific commitments to conserve the Antarctic's living and mineral resources. Fishing, mining and oil drilling all seemed at that time highly unlikely commercial enterprises. After all, many of the Consultative Parties were located a long way from the Antarctic and had their own flourishing domestic fishing and minerals industries. Oil was, in addition, both cheap and plentiful thanks to the Middle East production. However,

about a decade ago the Consultative Parties began to devise treaties to cover both sets of resources. Antarctica's living resources exist in fragile ecosystems and are concentrated mainly in the ice-free portions of the coastal zone and off-shore islands. The birds and seals depend for their food on the sea and come ashore only to breed. In the surrounding seas, plants and animals are well developed and rich in species. Plankton also has a large standing crop, probably as a result of the upwelling of nutrient rich water around the continent, and planktonic fauna has a high bio-mass distinguished by the predominance of a single species of krill (*Euphorbia superba*). The krill are a major element in the diet of Antarctic fish, birds, seals as well as some whales, and are present in enormous quantities.

Some scientific estimates have put the yield of krill for potential commercial exploitation at between or even above 50 to 100 million tonnes per annum - a range comparable with world fish landings. In recent years the West Germany, Chile, Poland, Japan, the Soviet Union and Taiwan have carried out experimental and semi-commercial krill harvesting and processing operations in Antarctic waters. If krill are over exploited the whole Antarctic food chain is put at risk. In other words, feeding humans and farm animals in the Northern hemisphere could be done at the cost of Antarctic marine life.

The response of the Consultative Parties to this problem was the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). This has a novel 'ecosystem concept' which takes into account the fragile interactions between species in the finely balanced Antarctic marine ecosystem. The conservation principles cover, first, the prevention of a decrease in the size of any harvested population to levels below those which ensure its stable recruitment. For this purpose its size should not be allowed to fall below a level close to that which ensures the greatest net annual increment. Second, there is provision for the maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations to levels

defined in the previous sentence. Third, also provided for are the prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades, taking into account the state of available knowledge of the direct and indirect impact of harvesting, the effect of the introduction of alien species, the effects of associated activities on the marine ecosystem and of the effects of environmental changes, with the aim of making possible the sustained conservation of Antarctic marine living resources. Because of the ecosystem concept, CCAMLR was considered the most progressive international fisheries agreement ever concluded.

However, CCAMLR is not working too well. Lyn Goldsworthy, a non-governmental observer of CCAMLR's implementation has written about the growing pessimism surrounding CCAMLR's observance:

The optimism which accompanied the introduction in 1982 of the CCAMLR Convention has been all but dissipated by its poor record of fisheries conservation since. Despite the Convention's laudable text, which embraces an ecosystem approach to the management of stocks of finfish and krill in the Southern Ocean, the member nations appear to be helpless to prevent the continuing destruction of valuable fish stocks by fishing nations, particularly the USSR. Although the Convention explicitly prohibits the continued harvest of any species at levels below those which ensure its stable recruitment, management decisions must be reached by consensus. In practice this has meant that the USSR, the major fishing nation, and other fishing nations, are able to block all attempts to institute any controls on fishing, despite clearly evidenced necessity for such measures.

Indisputable evidence of overfishing of some finfish species exists for several areas of the Southern Ocean. In the South Georgia area, for example, stocks of Antarctic cod (Notothenia rossi) have crashed from an estimated 400,000 tonnes in 1970 to a meagre 866 tonnes in 1983. Yet, last year's meeting was unable to agree to more than a voluntary effort not to target Notothenia rossi in fishing operations and to restrict incidental catches of this species to 300 tonnes. (And without an operative monitoring or inspections system to check compliance this last directive is meaningless in practice.) (1)

What is going wrong? First, CCALMR works, by consensus. It is believed that Australia is among those nations worried about the apparent rapid exploitation of marine resources but it can do

little because of the consensus rule. Consensus means agreement on the lowest common denominator.

Second, scientific advice is sometimes unclear. As in the debate during the 1960s and 1970s on whether or not the world's total whaling population was declining, scientists sometimes seem able to produce the evidence required by their respective governments.

Third, an important factor in many international scientific initiatives has been the active participation of non-governmental organizations supplying information, especially that refuting official claims. Most delegations are unwilling to have such a high level of non-governmental participation at the annual CCAMLR meetings. Australia, to its credit, does have some contacts with non-governmental organizations, such as briefing sessions. Some nations, of course, have no tradition at all of non-governmental organizations (such as the USSR, Poland and East Germany.)

Finally, one of the consistent lessons of treaty formulation and implementation has been that successful formulation and implementation require the initial and continuing consent of all parties. This consent is based upon a common set of understandings - which are usually unwritten but which may be summarized in the treaty's preamble. CCAMLR is hindered by the conflicting views of the parties towards conservation or exploitation. The domestic campaign in western nations for tighter conservation measures in the Antarctic will not decline and yet the fishing nations equally show no sign of easing their activities. It is difficult to see a way out of this deadlock.

MINERALS

The mountains of the Antarctic Peninsula were once continuous with the Andes and extrapolation suggests the possibility of copper deposits like those in Peru and Chile. Similarly, the continental shelf of the Ross Sea was contiguous 200 million years ago with the shelf between Tasmania and continental Australia where

substantial oil and gas deposits have been exploited. The East Antarctic shield was once linked with parts of Australia and South Africa and structural similarities have led to speculation about the possible occurrence of uranium. Coal was first discovered (and burned) in the Antarctic in 1907-9 and by 1964 14 minerals of commercial value elsewhere in the world had been found. Copper and molybdenum with lesser amounts of gold, silver, chromium, nickel and cobalt have been reported in the Antarctic Peninsula. Discussion of Antarctic mineral resources must necessarily be in large part speculative since 98 per cent of the rock structure is inaccessible and buried under a thick ice sheet.

Since the early 1970s particular attention has been paid to Antarctica's oil and gas potential, especially in off-shore areas where exploration and possible exploitation is more feasible in the light of technology and techniques developed in the North Sea and Arctic. The basins of the Ross and Weddell Seas and continental margins of the Amundsen and Bellinghousen Seas are regarded as possible locations for submarine hydrocarbon deposits. If extrapolations of geology from neighbouring continents are valid, the continental shelf of Antarctica should contain thick sedimentary basins.

The Consultative Parties have now completed a treaty on mineral exploitation. They began work on this after CCAMLR was completed both because the exploitation of marine resources was seen (quite correctly) as the more imminent commercial activity than mining and because they knew CCAMLR would be easier to devise than a regime for minerals.

The negotiations on the mineral regime had to balance three factors. First, there are "internal accommodations" to be made regarding the resources within the claims: both among the claimants themselves and between them and the non-claimants. Five of the claims are mutually recognized (Australia, France, New Zealand, Norway and the UK) but the claims of Argentina, Chile and the UK overlap. Non-claimants do not accept any of the claims.

The 1959 Treaty simply froze that controversy; mining in any of the claims would re-open that controversy.

Second, there is the "external accommodation" between the Consultative Parties and the other nations. The latter, via the annual sessions of the UN General Assembly, are seeking to have a say in the Antarctic's affairs. They are motivated by the general principle that they are sovereign nations which by right should be involved in this international issue and by the belief that the Antarctic could be a source of funds which should be shared with them. Moreover, some nations would like the mining regulated so as to prevent the Antarctic from becoming a source of competition in their own export of raw materials.

Third, there is the accommodation to be reached with environmental organizations and governments with a commitment to protecting the environment. For example, seals and penguin colonies would be vulnerable to oil spills as the oiling of their fur and feathers reduces their insulation to such an extent that they freeze to death. They will also die from swallowing the crude oil. Recovery rates would be slow due to factors such as low reproductive rates and the isolated nature of certain colonies. The major breeding and feeding areas are the only ice free land around the Antarctic peninsula and these will be desired for further scientific stations and onshore support facilities for an oil industry. Also, large krill swarms would be extremely vulnerable to just one oil spill in a localised area. Moreover, the effects of oil pollution could well be felt further afield since Antarctica plays a critical role in deep ocean circulation and provides nutrients for fisheries in temperate zones to its north.

The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) is open for signature from November 25 1988 to November 24, 1989. Immediate reactions to the treaty have varied. Mr CD Beeby, of New Zealand and Chairman of the Antarctic Treaty Special Consultative Meeting, on the day the CRAMRA was adopted said that the Convention was not - as it was sometimes

portrayed - an invitation to start mining in Antarctica. "In fact, it is quite the reverse". He explained that the aim of the Convention was to fill a significant gap in the Antarctic Treaty system. "Previously there was no prohibition on mining activity. Anyone could go to Antarctica and explore for minerals and exploit them with all the consequential risks for the environment and the political stability of the region. If deposits were ever discovered in commercially extractable quantities, an unregulated scramble for resources would have ensued. In such a situation, with no binding rules in place to protect the Antarctic environment, even prospecting could have led to serious pollution problems and the resurrection of disputes about sovereignty which had been put on one side by the Antarctic Treaty".

"In environmental terms, the really significant achievement of the agreement which we have adopted today", said Mr Beeby, "is that it completely reverses the previous state of affairs. This Convention prohibits exploration for and extraction of mineral resources in Antarctica. That prohibition stands unless the institutions established in the Convention give specific approval. The approval process is a rigorous one. It requires, first of all, a consensus decision even before applications are lodged. Secondly, there is a further stage of approval required in the context of any particular application. And at both stages the Convention sets out rigorous environmental protection criteria and safeguards - the most stringent safeguards ever negotiated in an international treaty".

Mr Beeby explained that the Convention provides for an Advisory Committee of scientific and technical experts to undertake detailed and comprehensive environmental evaluations at all stages of the decision making process. For each major step of an application a comprehensive environmental evaluation would be required. The Advisory Committee's mandate requires public input and other international organizations with environmental expertise should also be involved. "The Convention also foresees a role for non-governmental organizations and it is absolutely clear that the

before any major decisions are taken." (2)

On the other hand, a group of leading Australian environmental non-governmental organizations has put forward an alternative point of view.

Antarctica has been protected for more than a quarter of a century by the Antarctic Treaty. Under its protective umbrella no nation or mining company has been willing to start any mining project. But for the past six years a series of secret international meetings has created a document which will surely provide a catalyst for the degradation of Antarctica.

Antarctica is the last remaining continental wilderness, untouched by the massive industrialization, common everywhere else on the planet.

The extreme climate and isolated nature of the continent has created unique land and marine ecosystems containing abundant wildlife including penguins, seals and whales. Because people are not part of the natural ecosystem of Antarctica, wildlife living there is more vulnerable to oil spills and other pollution.

The wilderness of Antarctica is important for the creatures that call it home and important to everyone on the planet as an important regulator of global weather patterns. The recently completed Antarctic Mining Convention could be the last nail in the coffin for the great white wilderness.

The freedom to collect and exchange scientific data about Antarctica has been the backbone of the Antarctic Treaty. All this could be jeopardised if Australia joins the Antarctic Mining Convention.

Provisions in the Mining Convention allow organizations the privilege to withhold scientific information from even founding members of the Antarctic Treaty. If scientific freedom is lost in Antarctica, resource conflict is inevitable.

Australia has taken its responsibility to care for the Australian Antarctic Territory (AAT) - 42 per cent of the continent - very, very seriously.

If the Mining Convention proceeds, Australia, in practice, will be unable to prevent mining activity occurring within the Australian Antarctic Territory and is unlikely to benefit from such activity.

It is difficult to envisage the maintenance of a conflict free continent once minerals are discovered and commercially sought. The resulting instability in this region, for the first time in history, would adversely affect neighbouring countries such as Australia.(3)

Only time will tell which (if either) of these conflicting assessments is correct. However, CCAMLR's few years of implementation contain some lessons. First, a treaty's statement of fine principles will not of itself guarantee the implementation of those principles. Second, given the gap between CCAMLR's stated objectives and its actual implementation, it would be necessary for the new treaty to have an explicit and detailed system for environmental impact assessment. Third, a feature of that system should be the continuous monitoring of a mining project including its decommissioning and that the system should contain a neutral assessor.

To conclude, the Antarctic is undergoing a major change in its legal and political status. The basic consensus which was enshrined in the 1959 Treaty is now under threat. Some of the Consultative Parties are exploiting the Antarctic's living resources and others are anxious to have a legal framework in place should they or their corporations wish to exploit the mineral resources. Outside of the Consultative Parties, there are nations which are seeking to end the monopoly of the Consultative Parties. Meanwhile some Consultative Parties and some environmental non-governmental organizations are fearful of the environmental impact of all forms of commercial exploitation. The Antarctic used to be mainly a venue for scientists alone. Now international lawyers, diplomats and financial interests are also becoming involved. The Antarctic will, alas, probably never be the same again.