guidelines, which call on the countries engaged in fishing to take the greatest possible care in harvesting so as not to reduce stocks or endanger species in Antarctic waters. In February and March next year a meeting will be held in Canberra, Australia, to begin the task of drafting the regime. At a subsequent meeting, at which countries other than the 13 consultative members may be present, it is hoped that a final accord will be reached. At the Canberra conference it is expected that several options will be canvassed: a fishing convention with a clearly conservationist emphasis proposed by Australia, an international commission similar to the International Whaling Commission proposed by South Africa, and an Antarctic Treaty Commission proposed by the U.S.S.R.

The London meeting has thus cleared the way to two new international agreements, governing minerals and fish, while leaving enough ambiguities in the air to make it difficult to assess how effective the regimes are likely to be. A few things, however, are clear. First, the treaty nations have made no concessions at all to the view expressed in the United Nations that the Antarctic should be an international heritage. The resolutions on marine resources make no mention of the idea, nor do they support the notion that some proportion of the profits from Antarctic exploitation should be channeled to the Third World.

Second, the sovereignty question remains open. The compromise adopted in London is no long-term solution to this issue. For example, from remarks made by the conference chairman, George Hall of the British Foreign Office, it is clear that the marine resources regime will include figures for total permitted catches but will not attempt to allocate that catch between nations, since to do so would simply imply some judgment of which areas of ocean come within each nation's jurisdiction. There may thus be a danger that the regime, when negotiated, will be too vague to be enforceable. There was no mention of any possible sanctions which might be applied to nations failing to observe the regime.

A further confusion is raised by countries outside the 13; how will the proposed regimes apply to them? There was a clear desire at the London meeting that nations like West Germany and Canada should be brought within the Antarctic Treaty umbrella.

On less controversial topics, the London meeting agreed to improve the telecommunications system in Antarctica and to coordinate the flights of supply aircraft so as to provide the beginnings of an Antarctic air service. They also passed a declaration on the protection of the Antarctic environment, proposed by Chile, but failed to reach agreement on the control of tourism. While all the member states agree that some control of tourism is desirable, some favor strict legal rules and areas prohibited to tourism if they are of particular scientific importance; others think that little more than a code of conduct is necessary.

Most delegates appear to have concluded that the London meeting was a success; at least it brought no breakdown in the smooth system by which the member states have governed Antarctica for the past 18 years. But neither did it solve the awkward jurisdictional problems that inspired the original treaty; those wait for another day.

—NIGEL HAWKES

Ecology and National Security

The traditional equation of national security with military might is becoming increasingly incongruous as resource scarcities, overpopulation, and the ravage of ecosystems are becoming ever more disruptive of economies and social structures around the world.

That is the message of the latest report from Worldwatch Institute, headed by Lester Brown. In the report, entitled "Redefining national security," Brown goes through the usual grim cataloging of disastrous global developments: the imminent end of the petroleum era (world oil production is expected to slide starting in the early 1990's), the spread of deserts, deforestation, soil erosion, overgrazing, and overfishing.

These developments lead in turn to increased poverty, rising food prices, rising unemployment, and resultant social and economic upheavals. There are already plenty of examples of such disruptions, Brown says. In Ethiopia the termination of Haile Selassie's rule was precipitated by a food crisis that resulted from ecological deterioration. The Egyptian government was nearly toppled by riots over climbing food prices. The catastrophic flood in Bangladesh was in large part due to deforestation of watersheds. And "for some countries," writes Brown, "encroaching deserts pose a far greater threat than invading armies."

It is not only in marginal economies that such stresses threaten national stability. At a press conference held to discuss his report, Brown referred to a speech the day before by Defense Secretary Harold Brown, who said that future fuel shortages posed the single greatest threat to national security. Without assured oil supplies, observed the secretary, we will find ourselves with "a useless, encrusted modern-day Maginot Line." Lester Brown also quoted Isaac Asimov to the effect that "even a non-nuclear war cannot be fought because it is too energy-rich a phenomenon."

"The purpose of national security deliberations should not be to maximize military strength but to maximize national security," writes Brown—"the threats to security may now arise less from the relationship of nation to nation and more from the relationship of man to nature."

Despite abundant evidence for this assertion, nations continue to spend more on military defense than on health or education or development of new energy sources. Indeed, "the development of new, 'more effective' weapons systems now engages fully a quarter of the world's scientific talent."

Brown says no way has been found to evaluate military and environmental threats and "translate them into an allocation of public resources that provides the greatest national security." The military has its early warning system and economists have their forecasts, but no early warning systems exist to forestall the collapse of entire biological systems. Hence the surprising disappearance of the anchovy crop a few years ago, and the Sahelian famine, which was brought on by overgrazing and resultant desertification.

According to Brown's thesis, the redefinition of national security will require a broad and entirely new interdisciplinary approach to the matter. But it may take a lot more disaster to forge such an approach. Brown said that at a recent college symposium he tried to get ecologists and economists to communicate with each other, but they mixed like "oil and water."—C.H.