Biological Prospecting in Antarctica

Working Paper
Submitted by the United Kingdom

Background

1. Biological prospecting (or bioprospecting) is the exploration of naturally occurring micro-organisms, plants and animals for commercially valuable genetic and biochemical resources. It is a practice that has been around for many years. For decades scientists and commercial companies around the world have made use of biologically derived material in food production, disease and pest control, and in a variety of medical applications.

2. More recently however, advances in biotechnology and related sciences have generated increased interest in the search for biochemical materials that have particular commercial applications, and the number of bioprospecting ventures is increasing. World-wide it is now a multi-million pound lucrative industry.

3. Significant value is particularly attached to bioprospecting in special habitats such as tropical rainforests, coral reefs and, increasingly, the Polar Regions. Accordingly, Antarctica is far from immune to the considerable expansion in bioprospecting.

4. Bioprospecting can return significant benefits to the custodians of genetic resources (i.e. States), yet need have little effect on the species concerned or the environment more widely. However, this may not hold true in cases where bioactive material can only be obtained (in commercial quantities) by means of harvesting the species concerned.

Bioprospecting and Antarctica

5. SCAR, and in particular SCAR's Working Group on Biology, have been alert to the issue of bioprospecting in Antarctica for some time. In Information Paper (XXIII ATCM / IP 123) SCAR reported that there have already been collections of micro-organisms in Antarctica for pharmaceutical purposes and that interest in bioprospecting in Antarctica is developing rapidly. SCAR also noted its concern over the implications that the patenting of biological products may have for scientific research and conservation in Antarctica.

6. SCAR's Working Group on Biology has also noted that no mechanism appears to exist under the Antarctic Treaty to regulate such commercially-related activity.

7. We are also aware of at least two patents that have been applied for in the UK in respect of bioactive compounds found in Antarctic freshwater microbes. We understand that similar situations have arisen within the countries of other Consultative Parties.

8. Despite this reality, and the concerns raised by SCAR, neither the CEP nor the ATCM has yet substantively to address the environmental, scientific or political implications of bioprospecting in Antarctica.

9. Whilst it would appear that bioprospecting has, so far, had little or no impact on the Antarctic environment or its wildlife, the UK suggests that the matter requires pressing attention ahead of any significant increase in such activity.

10. To date it has been a hallmark or aspiration of the Treaty Parties to regulate, or commence the process of regulation for such issues ahead of them becoming a commercial reality (witness the proactive approach taken by the Parties in respect of, for example, CCAS and CRAMRA). By so doing, the issues, and the means of appropriately regulating them, can be debated without the pressures of commercial vested interested intervening.

11. The UK believes that bioprospecting is a further matter on which pre-emptive discussion and decision-making is required. Ground-rules need to be put in place before this activity gains a momentum of its own.

Recommendation.

12. The UK therefore recommends that the CEP undertakes a thorough review of the issue of bioprospecting in Antarctica, with a view to advising the ATCM on potential implications.

Issues for discussion

13. In this regard the UK considers the following issues warrant particular attention:

- The potential conflict between the freedom of access to scientific information provided for in Article III of the Antarctic Treaty, and the confidentiality that inevitably surrounds the commercial exploitation of bioactive material (i.e. patenting).

- Whether, and if so how regulation should be effected. ATCPs may wish to consider whether the provisions of existing international instruments might be drawn upon as a model for regulation in Antarctica (e.g. the 1992 Convention on Biological Diversity). The outcomes and implications of the 2002 World Summit on Sustainable Development may also have a bearing on the matter.

- What regulation my be required in respect of revenues derived from commercial exploitation of Antarctic species.