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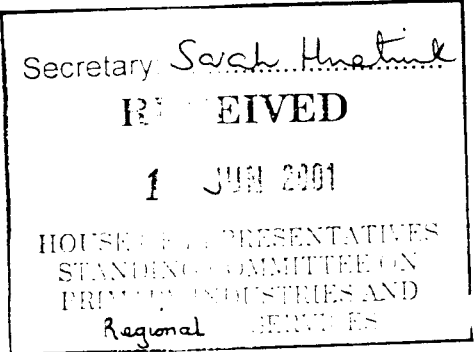
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Ms Sarah Hnatiuk
Inquiry Secretary
House of Representatives Standing Committee
On Primary Industries and Regional Services
Parliament House
Canberra ACT 2600



Dear Ms Hnatiuk

Western Australian Submission to the Commonwealth Parliamentary Inquiry into Development of High Technology Industries in Regional Australia based on Bioprospecting

I refer to correspondence from the Chair of the Standing Committee inviting Western Australia to provide a submission to the Inquiry. A Western Australian submission is attached for the Committee's consideration.

As you are aware, an extension for this submission has been negotiated. Should you have any further queries, please contact Mr Bala Murali, Principal Policy Officer, Federal Affairs, on 08-9222 9516 or e-mail: bmurali@mpc.wa.gov.au.

Thank you for your assistance in this matter.

Yours sincerely

Petrice Judge (Mrs)
Director
Federal Affairs

25 May 2001
Att.

Commonwealth Inquiry into Development of High Technology Industries in Regional Australia Based on Bioprospecting

Western Australian Submission

Introduction

Western Australia believes that equal importance needs to be given by the Commonwealth to the nature of bioprospecting activities, particularly the initial collection and screening activities, as well as to the anticipated returns from the establishment of manufacturing facilities. Australia's capacity to undertake collection and screening activities appears limited. An examination of the Australian pharmaceutical industry demonstrates how difficult it might be to realise returns from the establishment of manufacturing facilities.

The vast majority of scientific research into the bioactive properties of biological resources is conducted by large, multinational pharmaceutical companies who invest many millions of dollars on research and development each year. Estimates of the cost of development of a pharmaceutical from lead compound to release of a product are in the order of US\$200 million. Production facilities tend to be concentrated in geographic hubs, either close to major markets or where government incentives and/or prevailing socio-economic conditions provide substantial cost savings. Australia does not conform to any of these scenarios.

The Inquiry paper also indicates that Australia as a whole is mega-diverse. In reality, there are only a limited number of regions within Australia that could properly be described in this way, primarily in Queensland and Western Australia. Habitats of this type are under pressure from human activity and related environmental degradation. Australia has the dubious distinction of having one of the highest rates of species extinction of any developed country. Resources for conservation are not sufficient for the task.

Nevertheless, it is true that without access to local screening facilities, Australia will be reliant on international interests to perform this task.

Discussion of opportunities for Establishment of Regional Industries

It would appear that there are relatively limited opportunities for the development of high technology industries based on bioprospecting in regional Australia. Practical reasons for this are as follows:

- Biological resources are usually widely and sparsely scattered across a state which makes it difficult (especially in Western Australia's case) to justify placing a screening or research facility in any particular location.
- At present, there are very few high level screening facilities in Australia. Most States lack any significant capability. The economies of scale for modern screening and research facilities demand massive throughput of

samples. Hence, their location in regional Australia would mean they would likely be under-utilised and potentially non-viable.

- For a state of the art screening facility to be viable, it will require access to other forms of infrastructure (including qualified personnel, research support, social services, etc) and utilities (power, water, telecommunications, transport, etc). These tend to be more readily available in metropolitan areas.

The most likely opportunity for regional areas may be in localised harvesting or cultivation of biological resources which have been previously shown to produce prospective compounds in order to enable the extraction of sufficient material for further testing, or perhaps commercial scale production. However, such opportunities may well be uncommon and perhaps only be small scale and short-lived since the preferred option is to chemically synthesise bioactive compounds in order to generate pure compounds, lower costs and avoid environmental problems.

Intellectual Property and Knowledge

There appears to be confusion in relation to the nature of the connection between intellectual property (IP) and biological resources and the protection and retention of knowledge.

There is no IP inherent in, or attached to, a biological resource. The IP comes from the research into the bioactive properties of the resource or of compounds contained in the resource, or from processes developed to extract certain compounds or genes from the resource. Unless research is done in Australia to identify leads or to develop those leads into an invention, there is no intellectual property to be lost. A minuscule proportion of all biological resources will lead to any valuable discoveries or inventions which may be able to be protected by a patent.

Knowledge cannot be owned and, except to the extent that it can be protected as confidential information under the laws of contract and breach of confidence, cannot be protected.

Traditional Knowledge

International pharmaceutical companies have been interested in finding out more about bush medicine for a number of years and several have been working with indigenous Australians to learn of traditional medicinal uses of various plants and animals.

Traditional knowledge of indigenous Australians on properties of certain plants or animals (bush medicine) is not currently protected by Australia's IP regimes. This issue is being investigated by the World Intellectual Property Organisation (WIPO), a United Nations organisation, and IP Australia is closely involved with those international consultations.

In addition, the Standing Committee on Legal and Constitutional Affairs in its December 2000 inquiry into the enforcement of copyright in Australia entitled "Cracking down on copycats", recommended that the Standing Committee be given a reference to inquire into the mechanisms for the protection of indigenous cultural and intellectual property.

Biological/Biotechnology Patenting

There is a great deal of work being done at national and international IP levels addressing the issues of patent protection of inventions coming from bioprospecting and biotechnology. It is suggested that the Committee consider the work of IP Australia, the Intellectual Property Competition Review Committee report on the competition review of Australia's intellectual property legislation dated September 2000 and the work of WIPO.

The need for legislation and policy

Both the Commonwealth and Western Australia have the necessary legislation in place which enables benefit sharing agreements by linking those agreements in with access permits.

The Western Australian Department of Conservation and Land Management (CALM) is the agency responsible for conserving WA's flora and fauna. CALM's aim in managing access to biological resources is to ensure that:

- Access to the resource does not compromise its conservation or compromise biological diversity. This access is subject to the collection of the material being sustainable and that the collectors do not spread diseases like dieback, damage non-target flora and so on.
- Declared rare flora and threatened fauna are not endangered by collection.
- The WA community shares in any commercial and other benefits from the exploitation of the State's biological resources.

Native flora on Crown Land and native fauna across all tenures are the property of the State of Western Australia. Access to these resources is allowed under a licence system administered by CALM.

Flora on private land is the property of the landowner, who is therefore entitled to use the flora or give it away to others to use. However, landowners or authorised persons must obtain a licence from CALM if they wish to sell flora taken from private property. Landowners cannot take a declared rare flora, either for their own purposes or to sell, without written Ministerial consent. It is unlikely that consent to sell declared rare flora would be granted.

In relation to fisheries, the Western Australian Fish Resources Management Act 1994 includes a power to issue bioprospecting licences to take marine biota. It provides for regulations for the taking of fish for genetic or chemical

extraction or analysis without a permit from Fisheries WA. The Act also tightly regulates the importation and release of non-indigenous species and prohibits the importation and release of declared noxious species.

Conclusion

The direct benefits to regional Australia from the successful, sustainable exploitation of the nation's biological resources seem likely to be quite limited.

Australia's efforts in relation to bioprospecting will benefit from a focus on the early stages of the process, based upon early discoveries and development of leads. This includes the establishment of a small number of international standard screening and extraction facilities and the development of world class researchers. This would increase Australia's capacity to generate commercialisable IP and exert meaningful controls over access to Australia's biological resources. It would also increase the potential for large pharmaceutical companies to locate part of their operations in Australia and maximise capacity to benefit from their presence.

Australia should endeavour to increase the level of information about its biota by requiring the lodgement of voucher specimens or samples with the relevant authorities (museums and herbaria). It would be extremely beneficial for bioprospectors who are granted access to provide information about the properties of the biota they have accessed.

The Commonwealth's January 2001 Innovation Action Plan is aimed at promoting greater innovative activity in Australia and ensuring that the economic benefits from innovation are secured. Key aims of the plan, as stated in the main policy document "Backing Australia's Ability", include the need to:

- Strengthen Australia's research capability;
- Ensure the flow of new ideas which underpin innovation;
- Create critical mass in leading research fields; and
- Build competitive advantage in biotechnology.

In addition to numerous initiatives aimed at innovation generally, the Commonwealth announced two biotechnology-specific initiatives. These are:

- The establishment of a Centre of Excellence in biotechnology; and
- The doubling of existing funding to the Biotechnology Innovation Fund.

In view of these developments, Western Australia suggests that the Committee have regard to the substantial amount of previous and current work being done in areas pertaining to the Inquiry's terms of reference.