

12 October 2007

Have your say

The government welcomes feedback on the issues raised in this document. In forming your views on these important issues, we are particularly interested in the following questions.

1) On New Zealand's biological resources:

- 1.1 Do you think we need to have good information about bioprospecting activities in New Zealand, including the type and nature of such activities? Please give reasons for your answer.

Yes, it would be useful to be able to access this information (with appropriate confidentiality/privacy arrangements if necessary). Access to the information may encourage useful collaborations between researchers. Additionally, it may enable potential end-users of the research to identifying what research is being done in their area of interest, leading to better use (e.g. commercialisation) of the research results.

- 1.2 As a traditional knowledge holder, bioprospector and/or access provider, what are your experiences of bioprospecting in New Zealand? Can you provide any information that would be useful to develop a bioprospecting framework in New Zealand, for example, provide information about bioprospecting costs, benefits, outcomes and current benefit sharing agreements? If so, please describe them.

The objective of BioDiscovery's recently completed FRST-funded programme BIDX0201 Agrochemicals from Microbes was to identify compounds with agrochemical potential produced by microbes (bacteria, actinomycetes and fungi) collected from soil and plant samples, marine samples (via NIWA) plus Landcare Research's microbial collection (ICMP). In this programme, we collected materials from Maori-owned land (Tuhoe Tuawhenua Trust, Te Urewera; Waitutu Incorporation, Fiordland), which involved considerable discussion, hui and legal input to ensure the samples were legally obtained. BioDiscovery has ownership of the samples, the microbes isolated from them, and compounds produced by those microbes. In return, a benefit-sharing arrangement was negotiated should BioDiscovery gain progress payments from the R&D and/or royalties from successful commercialisation of a compound, either by BioDiscovery itself or by third Parties. Over the last 10 years we have had research contracts with several large agrochemical companies, through which we have supplied compounds for further evaluation as agrochemical leads.

2) On New Zealand's current frameworks to access biological resources:

- 2.1 Do you think the existing access frameworks would benefit from operating within a more co-ordinated and comprehensive bioprospecting framework? If so, why? If not, why not?

Standardising the approach to bioprospecting would make it easier to understand the legal requirements for collecting and evaluating any particular sample. The more comprehensive bioprospecting framework (as compared to the current situation) would also provide clearer guidelines in terms of ownership, benefit sharing, etc.

3) On a comprehensive bioprospecting framework for New Zealand:

- 3.1 Do you think that New Zealand should have a comprehensive policy framework to manage bioprospecting activity in this country? Please give reasons for your answer.

In itself, the comprehensive framework would appear to be preferable to the current mix of statutes and policy. However, the devil would be in the detail; a framework that is too prescriptive (for example) may actually discourage bioprospecting activities. This may particularly be the case for private access providers, in which their motivations for allowing bioprospecting may not align fully with the objectives of publicly-owned resources. Our experience in negotiating and working with various iwi has been that there is a range of tangible and intangible factors involved; a rigid framework would not have helped in our discussions and shared understanding of benefits and outcomes.

- 3.2 What are your views on the proposed vision and policy principles to guide New Zealand's bioprospecting policy?

i) Potential policy benefits and costs

- 3.3 Do you see any other potential benefits or costs arising from a bioprospecting framework apart from those discussed in this document?

No.

- 3.4 Which benefits do you think would be the most beneficial for New Zealand to capture?

Value-added benefits, such as additional R&D conducted in New Zealand and the associated employment etc, are likely to have the most far-reaching effects on our economy and capabilities (both research and commercial). Royalties/progress payments are essential (important) inducements for bioprospectors, but the benefits tend to be not widely distributed.

- 3.5 Do you think that there are potential benefits that are not worth capturing because of the costs involved in doing so?

This probably depends on the likelihood of benefits being obtained and the likely size of those benefits. In our case (agricultural lead molecules), the chance of finding a compound that goes on to commercial success is in the order of 1:500,000 microbes. Whilst benefit sharing principles need to be determined before the research begins, a drawn-out consultation process and legal wrangling are not warranted. In this respect, it is essential to have a good working relationship between access provider and bioprospector in which the principles are clear and the aims/objectives of the work is shared.

ii) Policy scope

- 3.6 What are your thoughts on the current definition of bioprospecting?

It seems reasonable to exclude non-commercial research collecting. However, as noted in the discussion document, such activities can sometimes morph into commercial projects by the collector or another party. Any framework needs to be cognisant of this possibility.

3.7 What are your views on how the “in scope” and “out of scope” boundaries of bioprospecting have been defined?

Why is seed collection for sale “out of scope”? It is a commercial activity. Collecting seeds, food, or firewood for your own use should be excluded.

3.8 Do you think that non-commercial research activities should be within the scope of a bioprospecting policy? If so, why? If not, why not?

Not entirely. It would probably add a layer of administration on top of the current system of gaining research permits from the likes of DoC. However, improved access to data on who is collecting what could be useful, as would tracking of the samples to ensure that benefits are shared should the material later be used in commercial products.

3.8.1 If yes, can you think of any specific activities that should nonetheless be excluded from the scope of a bioprospecting policy?

3.8.2 If yes, what levels of compliance should be expected from non-commercial researchers?

3.9 Which kinds of biological resources should be accessed for bioprospecting?

3.9.1 In your view, which of the three tiers of access (central government, local government and private) should be included in a bioprospecting framework?

Definitely include the central and local governments, should a framework be established, given that the land is in public ownership for all New Zealanders, and distribution or use of the benefits should reflect this (e.g. putting the money into initiatives that benefit the community of origin). Private providers should not be included, given their common law property rights. In the case where the access provider has a monopoly on the material (e.g. a particular plant species growing in only one area owned by an Iwi group) the ownership is straightforward. But what happens when the material is more widely distributed over a number of access providers' land??

3.9.2 Do you think that ex situ collections should be included in a bioprospecting policy?

There is already a range of terms and conditions under which such collections may be accessed, usually for research purposes only. These terms are made clear to depositors to the collection also.

3.9.3 Do you think that non-indigenous biological material should be included in a bioprospecting policy?

It is more important to protect that which we know is indigenous first, as we have no control over how non-indigenous material is used in other countries. However, the lack of taxonomy work for some taxa is a point of note – if we do not fully know what is present, how do we determine what is indigenous and what is not? At what phylogenetic level do we work with? Species? Sub-species? Strain? These issues are particularly pertinent to micro organisms, as the taxonomic status of many of these organisms is in flux, and it is accepted that our taxonomic knowledge in general is poor.

iii) Administrative frameworks

3.10 Do you think that New Zealand should have a National Focal Point? If yes, what form could it take?

Even without the rest of the framework suggestions, a single point of contact (through a single authority – e.g. MAF, MfE) would be advantageous, as this could be a repository for information for both the public and potential bioprospectors.

3.11 Do you think that New Zealand should have a Competent National Authority? If yes, what roles and responsibilities could it have?

As above – one authority should have the overseeing role.

4) On mātauranga Māori:

4.1 How do you think use of mātauranga Māori for bioprospecting can be most appropriately managed and protected?

I don't feel qualified to answer this question, but management and protection should be both culturally appropriate and achieved in a manner that does not erect unreasonable barriers. That said, if Maori do not want specific knowledge commercialised, then I think they should be allowed to say no.

4.2 What do you think of the suggestions made in this document as options to protect mātauranga Māori (a voluntary register, ensuring legally and fully mandated governance entities, a code of best practice for bioprospectors, or an advisory council to a Competent National Authority)?

Best practice information (not necessarily a rigid code) would be useful in order to determine the issues and ways to move forward. The difficulty will be that the resources and knowledge may be spread over many iwi, or sub-groups within an iwi – a register may unfairly limit the 'ownership' of that knowledge to particular groups when in fact it is more widely known.

If Maori are to optimise benefits from bioprospecting (or block bioprospecting work, if appropriate) then they need to be aware of the issues and potential outcomes. Any system addressing the Maori dimension needs to include knowledge sharing and upskilling mechanisms in this area.

5) On international bioprospecting frameworks:

5.1 What aspects of the Bonn Guidelines of the Convention on Biological Diversity (CBD) do you believe should be considered in developing a domestic bioprospecting framework?

They are all valuable points to be aware of.

5.2 Are there aspects of international bioprospecting frameworks as outlined in section 5 (or any others you know about) that could be useful to consider during the development of a bioprospecting framework in New Zealand?

What would be useful is to understand how well the frameworks are representing the rights and obligations of bioprospectors and providers in those countries. The frameworks themselves seem reasonable, but how well do they translate when applied to real-life situations? How much administration and associated cost is involved? What benefits have been accrued (that would not have been captured otherwise)?

6) On any other issues:

6.1 Do you have any further suggestions or comments on the issues raised in this document?

One over-arching comment about bioprospecting is that there has to be someone willing to pay for it, if we are to get any benefits whatsoever. The specific product successes outlined in the document are mostly the result of FRST funded programmes, yet this entity appears, in its Bioactives Domain Review, to be moving away from the bioprospecting arena. FRST's recent move to a highly outcome-driven approach does not bode well for bioprospectors, as the nature of the work is inherently highly risky, often with very long lag periods between initial bioprospecting and release of a commercial product. It is due to this risk: return profile that centralised agencies are best suited to fund it. This is because commercial entities, in the main, are unwilling to fund such research, preferring to invest once interesting 'leads' are identified. New Zealand likely has good potential for new and innovative products based on the bioactivity of its unique/indigenous resources. However, the research needs to be affordable, both in cost and risk dimensions, to allow firms to invest in product R&D. Better centralised funding of the initial bioprospecting component would go along way towards facilitating collaborations between bioprospectors and those firms that will help bring products to the market.

In the event that a specific compound passes the initial stages of scientific evaluation within a major agrochemical or pharmaceutical company it will be further scrutinised in detail as a candidate for commercial development. Many elements specific to the opportunity will be considered during this process of which the legitimacy of claims to ownership will be examined in detail. A major company is likely to evaluate multiple compounds showing a similar level of promise each month. Compounds with doubts or "complications" of ownership are likely to be rejected out of hand on that basis alone. From their perspective there are many more fish in the sea that are likely to be just as promising but without the possible problems. To gain value from our natural resource it is vital that ownership and rights to benefits arising from that ownership are crystal clear from the outset and not hindered with the possibility of subsequent legal challenges over property rights.