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Monday, January 25, 2010

The Secretary,
Inquiry into Australia's International Research Collaborations,
House Standing Committee on Industry, Science and Innovation
Parliament of Australia
Canberra, ACT.
Dear Sir or Madam,

I submit these comments in line with the Terms of Reference of the Inquiry. These comments are mine and should not be constructed as the University's official position. However, colleagues would support these comments.

1. The nature and extent of existing international research collaborations.

I have excellent international collaborations with scientists in the US, Canada and New Zealand. Broadly speaking, these collaborations can be classified in discipline areas of agronomy, plant physiology and plant biochemistry.

2. The benefits to Australia from engaging in international research collaborations.

The chief positive and essential benefit to Australia is the capture of knowledge in a timely manner. Knowledge encompasses specific information that may not be publishable on its own, techniques for specific research projects, ideas that are ultimately synthesized into new projects and new directions etc.

Other benefits that accrue include: (i) access to data, (ii) access to research facilities and equipment that are not readily available in Australia, (iii) ability to 'tap into' large research programs whereby an element of 'free-riding' can occur, (iv) invitations to speak at international conferences and symposia and (v) hard to quantify economic benefits to the country.

Some collaborations may have a negative benefit to individuals and organizations but have strategic benefits to Australia. For example, many Australian agricultural researchers are giving large amounts of time, effort, knowledge and resources to developing countries. This results in capacity building in the recipient country but often does not enhance the scientific ability of the individuals concerned or the Australian parent institution / organization. In fact, it may weaken the research capacity in Australia. However, the strategic benefit of this collaboration to this nation may result in better international relations and political stability in the recipient country. Sources of funding for this type of collaboration are typically Australian or international aid agencies. The solution is to find a balance between capacity building and creation of new knowledge of benefit to Australia and globally.

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3. Key drivers of international research collaboration.

Without international research collaboration, research progress on a given project would be much slower and, at times, not able to be achieved due to physical or human resources. From the perspective of an individual or organization, the key factors for entry into international collaboration are: (i) a very strong desire to undertake a specific research project that requires more than local Australian input, knowledge or resources (ii) the prestige that accrues to the researcher or organization, (iii) the net benefits of collaboration, (iv) lack of resources or more positively, access to resources and (v) financial imperatives (eg employment).

4. Impediments to research collaboration and potential solutions

In my area of research and that of many of my colleagues in adjunct disciplines, the main impediment is collection and movement of germplasm within Australia so that Australian and international research collaboration occurs. In essence, each state or territory claims ownership to germplasm eg a plant, bacterium, fungus, lichen etc. Thus there are often complex bureaucratic issues of collecting material and more importantly shifting it between states/territories. It makes it almost impossible to undertake cross border research which in turn can lead to international collaboration. States/territories have the idea that a fortune is to be made from the germplasm or its derivative.

In fact, it is often easier to access Australian germplasm held in overseas collections than it is to move it between states/territories. Unfortunately, the range of Australian germplasm held internationally is rather limited. Thus it limits international collaboration.

The Australian Government contributes to the ongoing operations of a number of CGIAR centres eg in the Philippines, Mexico, India, Syria etc. Germplasm held in these centres is freely available on request. It may be that Australia actually has a requirement to lodge relevant germplasm in these centres. Collaboration with these centres as well as collaboration with scientists in North America, Europe and New Zealand is impeded by local Australian state/territory restrictions.

To give a recent example, I wanted to apply for research funds coming from the Gates Foundation so that I could enter into a large international research project. However, to do this, I had to produce documentation that the [Australian] germplasm would be available. This could not be achieved in a reasonable timeframe and thus this major international collaboration was lost.

A second impediment to international collaboration is lack of travel funds.

Solutions:

- Firstly, germplasm must belong to the nation not states or territories. This requires legislative support to override state/territory claims.

- Secondly, movement of germplasm between states/territories should be mandated as free movement (cf. free trade between states/territories under Section 92 of the Constitution).

- Thirdly, a simple benefit sharing agreement should be mandated so that endless negotiations on commercial benefits [usually highly unlikely] are overcome. Signing of such an agreement must be completed **within two (2) weeks**. A simple formula could be 50% to the state/territory and 50% to the researcher/research organization after expenses. Researchers/research organizations could then enter other benefit sharing agreements with third parties eg international collaborators for their share of the individual/organization 50%.

- Fourthly, when germplasm is moved for pure research, the requirement for a benefit sharing agreement should be waived.



5. Principles and strategies for supporting international research engagement

(i) As far as my work and that of colleagues across the nation doing similar work, no restriction on the movement of germplasm within Australia should occur (vide solutions above). This in itself will help to promote international collaboration.

(ii) Greater funding for international collaboration is necessary. In terms of Government funding bodies, Government should set aside separate additional funding for international travel. These funds must not come from existing funds of the funding agency.

Thank you for your consideration of these matters,

Yours sincerely,

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