

C S I R O
AUSTRALIA
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Mr Roderick West
Chairman
Review of Higher Education Financing and Policy
Department of Employment, Education, Training and Youth Affairs
GPO Box 9880
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Dear Mr West

Policy Discussion Paper *Learning for Life*

CSIRO has an interest in your Review because of our links with many parts of the higher education system in Australia and the complementary nature of the research emphases of these two major components of the Australian research system.

Although many of the issues being addressed in the Review are matters internal to the higher education system, on which it is not appropriate for CSIRO to put forward views, we do have comments in relation to some areas of common interest and concern.

These are enclosed and I hope they are of borne use as you move towards finalising the Report of the Review.

Yours sincerely

Malcolm McIntosh

Comments from CSIRO on the Policy Discussion Paper *Learning for Life* released by the Review of Higher Education Financing and Policy

CSIRO's interest in this Review arises from three main factors. CSIRO is a major employer of researchers and other graduates from the higher education system and is involved in a rich network of collaboration and cooperation with research colleagues in that system. Furthermore, the balance of scientific, technological and engineering research conducted in the public sector in Australia depends on a good degree of complementarity between the higher education sector and CSIRO. The Universities play a uniquely strong role in pure basic research and a significant role in strategic research, while CSIRO's major emphases are on strategic and, especially, applied research.

Learning Life devotes relatively short consideration to the research aspects of the higher education system, but they are important. CSIRO notes and agrees with the paper's statement that higher education research and research training must be nurtured because of their importance to Australia's broader research and innovation system. Some comments are made below on aspects raised by the Paper and on issues seen from another part of the Australian research system.

Balance of research

CSIRO agrees with the balance expressed on page 131, which notes that Australia could get better value out of its investment in higher education research (through more effective knowledge and skills transfer and technology diffusion mechanisms) but states that this view is not an argument to shift the balance of funding support for university research in the direction of applied research. It is indeed likely that such action could lead to chronic under-investment in basic research and to displacement of industry investment in R&D by the private sector.

The Cooperative Research Centres Program has had a positive effect in its early years in encouraging collaboration in strategic research amongst the public sector research providers and with industry/users of research. If the Review of the CRC Program now in progress makes major changes to the Program, in the direction of greater emphasis on commercialisation of research and contributions from public sector participants, both the higher education sector and CSIRO will need to weigh their future commitments to the Program so as to ensure the maintenance of appropriate levels of basic/strategic research.

Priorities

Australia has a sufficiently small total research effort that it needs to pay attention to achieving critical mass in research fields, particularly where these relate to national benefit. As global competition increases, adequate resources need to be focused on research that underpins innovation in order to make progress in a timely way. The Paper comments that resources in the higher education sector should not be spread too thinly and also that there should be priorities, which are determined in an open way. CSIRO endorses these principles. This Organisation has developed an effective approach to its own priority setting which is based on assessments of the attractiveness and feasibility of research. Methodology related to that of CSIRO has been explored by the Australian Research Council, but because the two mandates differ significantly the approaches need to differ. There may be complementarities worth exploring. CSIRO continues to be willing to share its experience in this challenging area, and would value the participation of the ARC and university system in relevant coordinating mechanisms.

The Paper encourages more differentiation of higher education providers, with a focus on prices for courses. However, undue reliance on differentiation by course price would be unfortunate as there are other aspects that should be considered in the process of achieving value for money through differentiation and priority setting. Examples are the achievement of critical mass and excellence in selected discipline areas in particular institutions, and the concentration and sharing of expensive research facilities and infrastructure. More comment on this important aspect is provided below. A national view needs to be taken of how best to serve the national interest through efficient use of research resources. For example, CSIRO is increasingly rationalising within the Organisation and complementing its own expertise by working in collaboration with external parties.

Infrastructure

The Paper notes the problems experienced by the higher education sector in maintaining research infrastructure. This is a costly area. CSIRO recognises the need for the management of research-performing institutions to set aside adequate funds to maintain their research infrastructure. Early this decade the Organisation took steps to correct a shortfall in investment in its own infrastructure and a corporate policy position on it is maintained.

There is scope in Australia for much more efficient use of research infrastructure. CSIRO is increasingly cooperating internally across different parts of the Organisation and externally with outside bodies including with universities, other scientific agencies and State Governments, to make the best use of scarce research funds. Examples include sharing of the cost of purchasing a new supercomputer between CSIRO and the Bureau of Meteorology; and a proposal now being developed for a Rural R&D Strategic Alliance involving the Queensland Government, University of Queensland and CSIRO, with associated establishment of a new Institute for Molecular Biosciences at the University.

Another significant policy area with impact on research infrastructure relates to acceptance of external grants or contracts. This Organisation has a policy that researchers do not accept research grants or contracts for less than the full cost of performing the work unless there are spillover benefits to Australia or CSIRO research. This practice is consistent with the Government's policy of competitive neutrality. CSIRO agreements normally involve explicit sharing of both benefits and costs, and contracts include an element for asset usage/depreciation to contribute to the funding of asset management and replacement. CSIRO's experience, early in the process of raising its external earnings to meet a target set by the Government, was that a few parts of the organisation accepted marginal funding with a detrimental effect on their strategic research infrastructure, and corrective action was necessary.

Research Training

The broader concept of research training espoused by the Paper is endorsed by CSIRO, assuming that research excellence is maintained. In 1996-97 CSIRO staff supervised, jointly with university staff, a total of 919 postgraduate students, including 705 PhD students and 214 Masters or Honours students. Approximately one third of these were supervised through CSIRO's involvement in the CRC Program. The corresponding figures for 1994, at the end of the previous triennium, were 509 PhD students and 183 Masters or Honours students.

CSIRO provides research environments that are focused on the needs of industry and other users of research, with associated opportunities to enhance communication skills and undertake other generic learning experiences. The Organisation also enables links into international networks that are of value to students in their future careers.

CSIRO values this link with the higher education system and will continue to contribute in this way to the future development of the research workforce.

CSIRO

11 December 1997

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