



Submission No 14

Inquiry into Australia's Relationship with Malaysia

Organisation: Department of Education, Science and Training

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Australian Government

Department of Education, Science and Training

Dr John Carter
The Secretary
Foreign Affairs Sub-Committee
Joint Standing Committee on Foreign Affairs, Defence and Trade
Parliament House
CANBERRA ACT 2600

Dear Dr Carter

Inquiry into Australia's relationship with Malaysia

The Department of Education, Science and Training (DEST) welcomes the opportunity to make a submission to the Joint Standing Committee on Foreign Affairs, Defence and Trade's inquiry into Australia's relationship with Malaysia. I attach DEST's submission on Australia's bilateral education and science relationship with Malaysia.

If you have any queries regarding this submission, please contact Mr Graeme Rankin, Director, South, South East Asia and Middle East Section by phone on 6240 5163 or via e-mail at graeme.rankin@dest.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'F. Buffinton'.

Fiona Buffinton
Chief Executive Officer
Australian Education International

15 September 2006



Australian Government

Department of Education, Science and Training

**Submission to the
Joint Standing Committee on Foreign
Affairs, Defence and Trade's inquiry into
Australia's relationship with Malaysia**

Department of Education, Science and Training submission to the Joint Standing Committee on Foreign Affairs, Defence and Trade's inquiry into Australia's relationship with Malaysia

The submission from the Department of Education, Science and Training (DEST) is in two parts reflecting the different areas of responsibility of the department. The two areas are:

1. Education and training; and
2. Science and technology.

1. Education and Training

1.1 Background

1.1.1 The role of Australian Education International, Department of Education, Science and Training

Australian Education International (AEI) is a division of the Australian Department of Education, Science and Training (DEST). AEI uniquely integrates the development of international government relations with support for the commercial activities of Australia's education community. To do this, AEI liaises with all sectors of the education and training industry and other government agencies.

AEI develops Memoranda of Understanding and facilitates dialogue on the issues of education, and training with governments around the world, as well as managing Australia's education interests in major international and regional strategic forums. It has an International Network of staff, including a Counsellor and an office in Kuala Lumpur.

AEI promotes Australia's education and training capabilities through a range of strategies including brand positioning, promotional events, marketing materials, the multilingual Study In Australia website and in-country communications campaigns. AEI also administers national legislation for financial and tuition assurance mechanisms and codes of practice such as the *Education Services for Overseas Students Act* (ESOS) and the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS). AEI provides assessment services, information and advice on the recognition of educational and professional qualifications and skills from around the world through the National Office for Overseas Skills Recognition (NOOSR).

1.1.2 Introduction

Australia and Malaysia have had an active history in a number of areas, however, the strongest relationship is in the area of education. Education will form the basis of our future economic, cultural and social relationships.

Australia and Malaysia enjoy a positive and cooperative bilateral education relationship, facilitated by strong government to government links and institutional cooperation. Australia has had a long history of providing education to Malaysian students, particularly at the university level, since the beginning of the Colombo Plan. We estimate there are 250,000 Malaysians who are alumni of Australian educational institutions, and these alumni are active at all levels of Malaysian society.

Australia is still the largest overseas provider of education services to Malaysia and is an important source market for students, ranking as Australia's fifth largest source country for onshore student enrolments in 2005. Education provision to Malaysians includes scholarship-based or full fee-paying university degrees, short courses, vocational and technical education, schools, twinning programmes and offshore provision in many forms. Three Australian universities also operate branch campuses in Malaysia.

Malaysia has a large youth population with a strong focus on education. At this point, it appears unlikely that all demand could be met in-country. Australia remains in a very favourable position to expand our education engagement in Malaysia due to our proven quality reputation in the local market, excellent engagement at the Government level and very strong alumni linkages.

Government to Government Linkages

The Malaysian-Australian *Memorandum of Understanding on Cooperation (MoU) in the Field of Education* underpins and formalises our education relationship with Malaysia. The MoU formally expired in January 2006. As both the Malaysian Government and the Australian Government see considerable benefit in continuing the strong relationship that has been built under the MoU, DEST and the Malaysian Ministries of Education and Higher Education are currently negotiating to renew the MoU.

The Hon Dr Brendan Nelson MP, the then Minister for Education, Science and Training visited Malaysia in July 2005. During his visit Dr Nelson advanced Australia's considerable and growing education agenda and acknowledged the key role education plays in our bilateral relationship with Malaysia. Dr Nelson had positive meetings with Dato' Seri Najib, the Deputy Prime Minister and his counterpart Ministers, Dato' Hishamuddin, the Minister for Education and Dato' Dr Shafie, the then Minister for Higher Education.

On the advice of the Prime Minister of Malaysia, Dato' Seri Dr Abdullah Badawi, Dr Nelson visited the International Islamic University of Malaysia (IIUM). During his visit to IIUM, Dr Nelson announced the creation of ten new scholarships for Malaysia, under the Endeavour Programme, (see 1.3 *Scholarships*) for the two-way exchange of Australian and Malaysian students.

Institution to Institution Linkages

Australian educational institutions play a significant role in providing offshore education services to Malaysian students, and contributing to capacity building in Malaysia. This includes not only partnerships and distance education, but also three branch campuses (Monash University, Curtin University of Technology and Swinburne University of Technology).

As at May 2003, Australian Vice-Chancellors' Committee (AVCC) data indicates that Australian universities have 127 formal linkages with Malaysian institutes of higher learning.

Twenty-five Australian universities conduct 321 offshore programs under formal agreements with Malaysian higher education institutions or organisations (AVCC 2003).

With funding support from DEST, the AVCC hosted a two day Australia-Malaysia Vice-Chancellors meeting in Sydney on 6 and 7 July 2006 to strengthen university ties between the two countries. Fourteen Malaysian Vice-Chancellors and senior university staff and 12 Australian Vice-Chancellors and Deputy Vice-Chancellors participated in the meeting. Vice-Chancellors discussed issues of importance to both countries such as university governance, funding, research, development and innovation.

1.2 Student Enrolments

In 2005, Malaysia represented Australia's fifth largest source for overseas onshore student enrolments and the largest source market from South East Asia region. Student numbers were down slightly by 3.2% from 19,972 in 2004 to 19,342 in 2005.

Table 1: Malaysian enrolments by sector from 2003 - 2005 (Jan-Dec data)

Sector	Annual Enrolments				
	2003	2004	2005	2003-2004 % Change	2004-2005 % Change
Higher Education	15,437	15,895	15,375	3.0	-3.3
VTE	2,193	2,066	2,122	-5.8	2.7
Schools	873	870	799	-0.3	-8.2
ELICOS	356	283	281	-20.5	-0.7
Other	936	858	765	-8.3	-10.8
Total	19,795	19,972	19,342	0.9	-3.2

Malaysian students predominately enrol in the higher education sector (79.5% in 2005) with 87.9% of students completing an undergraduate degree. The most popular fields of higher education study are business administration and management (33.9%) and engineering (15.3%).

Table 2: Malaysia's Higher Education enrolments showing broad fields of study 2005 (Jan-Dec data)

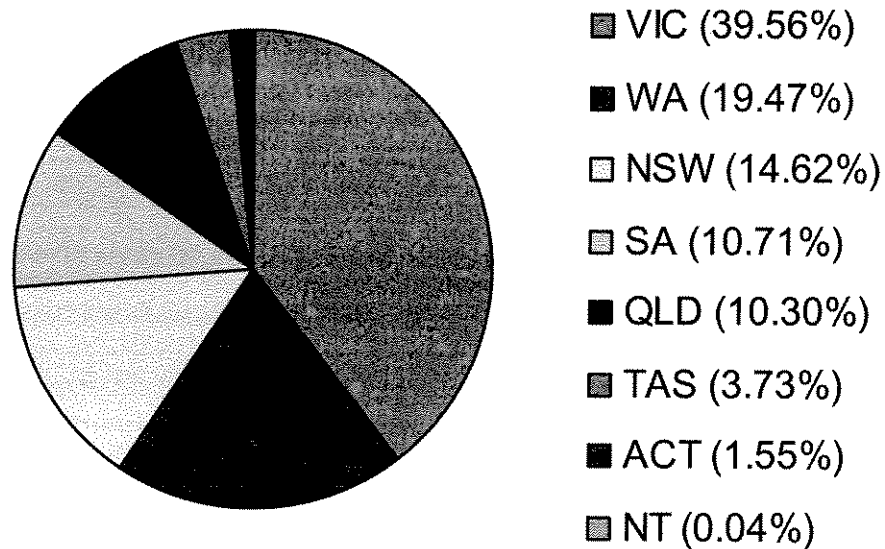
Broad Field of Study	2005 Enrolments
Business Administration, Management	5209
Engineering, Surveying	2354
Arts, Humanities and Social Sciences	1214
Medical Science, Medicine	1126
Computer Science, Information Systems	1049
Architecture, Building	785
Science	735
Pharmacy	505
Economics	425
Visual and Performing Arts	351
Law, Legal Studies	257
Physical Sciences	255
Health, Community Services	189
Education	162
Life Sciences	155
Services, Hospitality Transport	137
Nursing	123
Multi-Field Education	113
Dental Services	98
Land and Marine Resources, Animal Husbandry	67
Veterinary Science	34
Mathematics	25
Language Studies	7
TOTAL	15375

NOTE: Higher Education accounts for nearly 80% of Malaysian students studying in Australia and is the most meaningful sector to breakdown by broad field of study.

The top ten fields of study by enrolment numbers have been broken down into states and territories are at Attachment A.

Malaysians have traditionally favoured Victoria as a study destination (39.6% in 2005); however, there has been diversification with Western Australia and NSW becoming popular destinations. Figure 1 shows the percentages of Malaysian enrolments in state in 2005.

Figure 1: Malaysian enrolments in 2005 by State/Territory (Jan-Dec data)



Note: AEI Market Indicator Data is based on nationality, not the country of departure. Enrolment data is extracted from the PRISMS database which is being updated continually by education providers and DIMA.

Offshore Provision

The offshore provision of education is growing in importance, with 14,271 students studying with Australian higher education institutions in Malaysia (2004 Higher Education Statistics Collection) and it is estimated that around 1500 students are also studying in other sectors.

Competition

The United Kingdom continues to challenge Australia's market leadership, especially in the postgraduate market. The United States remains a lesser competitor, with the tough Visa regime damaging its market potential. Canada and New Zealand have very small numbers of students.

1.3 Scholarships

The *Endeavour Programme* is a prestigious scholarship programme showcasing the excellence of Australia's education, science and training sectors. The *Endeavour Programme* now forms a part of the Australian Government's \$1.4 billion *Australian Scholarships* initiative (announced in April 2006). *Australian Scholarships* aims to bring high achieving students, researchers and professionals from the Asia-Pacific region, including Malaysia, to Australia to undertake short or long term study, research and professional development in a broad range of disciplines. The *Endeavour Programme* includes fully funded postgraduate scholarships, research fellowships, student exchanges and scholarships targeted towards professionals working in key priority areas in government, academia, business as well as the community sector. The Endeavour Award allocation for Malaysia in 2006 is shown in Table 3.

Malaysians are eligible for the following awards:

- *Endeavour Asia Awards* (postgraduate research and study)
- *Endeavour Malaysia Awards* (postgraduate research and study)
- *Endeavour Malaysia Research Fellowships* (postgraduate and postdoctoral research)
- *Endeavour Australia Cheung Kong Awards* (postgraduate and postdoctoral research)
- *Endeavour Postgraduate Awards* (postgraduate study)
- *Endeavour Research Fellowships* (postgraduate and postdoctoral research)
- *Endeavour Executive Awards* (professional development)
- *Endeavour International Postgraduate Research Scholarships* (postgraduate research)
- *Endeavour Vocational and Technical Education Awards* (diploma and advanced diploma)

The emphasis on grants and scholarships as a means of attracting students and strengthening government relationships has long been recognised. The implementation of the *Australian Scholarships* programme, based in part on the successful Colombo Plan which commenced in the 1950s, will allow Malaysians to undertake an international learning experience in Australia. The Endeavour Programme also provides opportunities for Australians to do the same abroad.

Table 3: Endeavour Award allocation for the 2006 round

Award	Malaysians	Australians (to Malaysia)	Total
Endeavour Student Exchanges	1	3	4
Endeavour Postgraduate Research and Study	45*	4	49
Total	46	7	53

* This includes International Postgraduate Research Scholarships (IPRS) data from 2004 (most recent figures).

During Dr Nelson's visit to the International Islamic University Malaysia (IIUM) on 7 July 2005 he announced the creation of six new *Endeavour Malaysia Awards* for postgraduate studies and four new *Endeavour Malaysia Research Fellowships* for the two-way exchange of students. The scholarship package is worth \$1.5 million over three years and the first recipients commenced their studies in 2006. Two Awards are reserved for Malaysian students of the IIUM to study in Australia, and two for Australians to study at the IIUM. The Awards will be offered to scholars of the highest academic merit whose study and research programmes will enhance relationships between Australia and Malaysia, and foster Australia's ongoing understanding of Islamic culture.

1.4 Malaysian Education

In early 2004, the Ministry of Education was split into the Ministry of Education (covering school education and Vocational and Technical Education in schools) and the Ministry of Higher Education (covering tertiary education). We understand the intention was to allow for greater policy focus on the changes that were required within each sector. This was in the context of burgeoning demand for places, and a realisation that in the future, Malaysia would not be able to compete effectively with China and India for the manufactured items that had largely been driving the economic growth, due to differences in salary and production costs.

Additionally, at this time a Ministerial position entitled "Education Envoy" was created to increase Malaysia's education exports and examine issues in the international student market. This position was abolished in 2006.

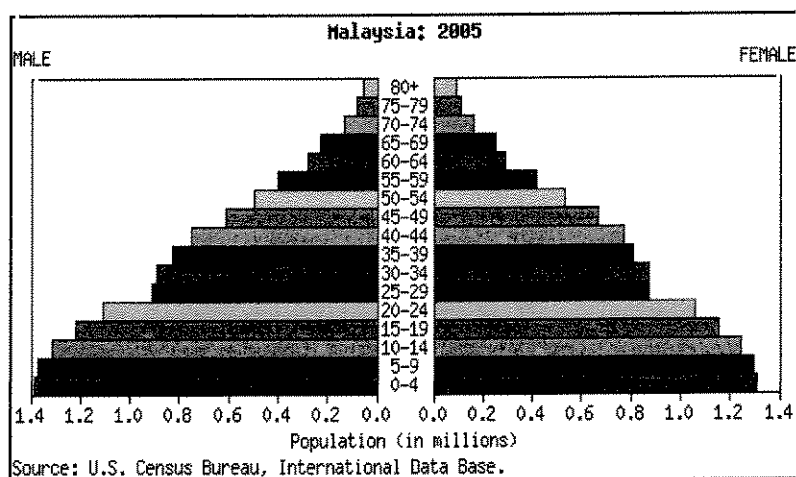
The current Minister of Education is Dato' Seri Hishammuddin bin Tun Hussein, the son of a former Prime Minister. He was educated in the United Kingdom but has a daughter currently studying in Australia. He accompanied the Malaysian Prime Minister during his official visit in 2005. Key changes that have been introduced by the Minister include:

- introducing English as the language of instruction for maths and science;
- implementation of "Smart Schools";
- strong anti-corruption measures, particularly in the construction of schools; and
- allowing Malaysians to enrol in and constitute up to 40% of the population of international schools.

The current Minister of Higher Education is Datuk Mustapa bin Mohamed, who completed a Bachelor of Economics (with Honours) at the University of Melbourne. The Minister comes from the Economic Planning Unit in the Prime Minister's Office and has been driving institutional change, particularly in funding and the up-skilling of Malaysia's academics. The Minister visited Australia in September 2006.

1.4.1 Malaysia's Demand for International Education

Malaysia's education system is significantly stretched by both its internal population growth and targets set by the Malaysian Government in the various key planning documents.



The above graph illustrates the very large growth in the Malaysian population which is significantly stretching supply of education in the compulsory schooling years. At the higher education level in 2006 around 40,000 students managed to find places in public universities while 37,800 students failed in their bid for a place in a public university. Such a shortfall has given rise to a booming

private education sector in which Australia participates through “twinning” partnerships for the delivery of qualifications.

The Malaysian Government’s *Vision 2020* plan, designed to make Malaysia a developed nation by 2020, calls for 40% of the Malaysian population to have tertiary education qualifications by 2020. Given the population growth, this would require a phenomenal expansion of the public university, private college and vocational sectors in Malaysia. As such, entry level courses (such as undergraduate, diploma etc) are being developed in order to meet the vast bulk of the student population seeking tertiary education.

In the Ninth Malaysia Plan (Malaysia’s five year development plan), released on 31 March 2006, it was recognised that a majority of public institutions must focus purely on expanding places and on teaching and learning. However, Malaysia also wishes to have award winning researchers and develop patentable research. Two key changes were announced in this Plan:

- there would be only four universities funded for research; and
- the number of academics with PhD qualifications would be increased from 38% to 60% across all universities in five years.

With only four universities undertaking research, this has significantly lowered the number of places and course diversity available for PhD study which could ultimately create further increases in students seeking to undertake overseas study.

The Malaysian Government has assigned considerable funding for scholarships to overseas destinations, and Australia is included. Within this context, there has been strong interest from the Malaysian Government and public universities for developing co-supervision arrangements.

The number of Malaysian students studying towards an Australian PhD has been growing at above 30% over the last couple of years. Additionally, Post-Graduate studies have been highly diversified and less influenced by the external factors such as cost. Choices of study destination appear to be based on perceptions about the quality of research. In early 2006, Malaysia overtook China and India to become Australia’s number one source country for Post-Graduate commencements and with the directions clearly spelled out in the Ninth Malaysia Plan, as well as the new *Endeavour Programme*, we see that this strong growth will continue for some years.

1.4.2 Education Delivery by Foreign Providers

Australia is the largest foreign provider of educational courses delivered in Malaysia with an estimated 15,800 foreign students currently undertaking study at all levels, from schools through to PhD research.

The “twinning” course was created in response to the Asian Financial Crisis to allow Malaysian students who had started their studies in Australia to continue to do so at a lower cost in their own country, however, this interim measure has now become a permanent fixture of the bilateral relationship. Australia was the first to be invited to set up a University Branch campus in Malaysia, and now has three such campuses in Malaysia. In 1998, Monash University established the first branch campus in Bandar Sunway, Selangor. Since then, Curtin University and Swinburne University of Technology have followed suit, establishing branch campuses in Miri, Sarawak and Kuching, Sarawak respectively.

A critical problem for Australian education and training providers has been finding a suitable partner to deliver courses and maintain the quality of the course at a level comparable to provision in Australia. Additionally, as courses must meet Malaysian legal requirements, ensuring that there is compliance with both Australian standards and Malaysian standards has been a challenge for each institution involved. To assist, AEI has published, *Accreditation of Offshore Courses in Malaysia: an Essential Guide for Australian Education Providers*, to guide Australian education providers through the processes of approval and accreditation of tertiary courses to be delivered in Malaysia. It is an important reference source aimed at minimising disputes and safeguarding the reputation of Australian providers by mapping and consolidating the approval processes.

The National Accreditation Board (Lembaga Akreditasi Negara or LAN) has been responsible for forming the policy, legislating and policing the quality of private provider partners and the foreign courses they deliver. The current LAN measures have, however, fallen behind industry expectations. This is perceived as having reduced the international competitiveness of courses in Malaysia.

It is expected that in December 2006, LAN and the equivalent public university body will be merged to form a single Malaysian Qualifications Agency (MQA). The MQA will have legislation to allow for different processes for University Branch campuses of foreign universities that will speed up processes and provide much less imposition on course development and delivery. Additionally, it intends to conduct visits to these institutions in conjunction with the Australian University Quality Agency (AUQA) and utilises the "fit for purpose" test rather than previous input based measures.

The MQA will also implement the first Malaysian Qualifications Framework (MQF), which has been based on the Australian Qualifications Framework (AQF). A key requirement for the MQF is not only in developing a consistency of nomenclature and equivalencies within country, but it is expected that discussions will commence before the end of 2006 on developing a comprehensive map of equivalencies to the AQF.

1.5 Barriers to the Cross-Border Provision of Education

Australia faces a number of barriers to increasing trade in education services with Malaysia. Barriers to trade significantly reduce one of the main benefits of Australian providers operating in Malaysia which is their ability to teach to international standards and award recognised international degrees locally and at a reasonable cost for the student.

1.5.1 Recognition of Qualifications by the Malaysian Public Service Department

Recognition of Australian qualifications in Malaysia occurs through two processes. The first is the relevant professional board, and currently we have a very high level of recognition for most professions. Without appropriate recognition, students are prevented from working in Malaysia. Currently there are relatively few problems for a majority of graduates with professional degree recognition, though issues do remain in quantity surveying, law and nursing.

The second process is recognition of Australian qualifications through the Malaysian Public Service Department (JPA). Without recognition by the JPA, a student may be unable to apply for some jobs in the public service, but more importantly, they will not be paid at an equivalent level as a person with a recognised qualification.

AEI has made very strong gains over the last two years in this area, increasing the recognition of our universities to 100%, however, recognition of other higher education providers remains unresolved. The process of recognition of individual degrees has been shortened from averaging 2+ years to around 6-8 months and there is now automatic recognition from the CRICOS list of Australia's social science, humanities and science degrees. AEI is currently working on extending the number of areas for automatic recognition.

The processes implemented over the last two years for recognition have increased the number of Australian degrees recognised by the Malaysian Government some 700%, overtaking the United States of America in total number terms, however, the number of Australian degrees recognised remains a mere 30% of the United Kingdom.

1.5.2 Negotiation of the Malaysia-Australia Free Trade Agreement

As part of ongoing work undertaken for the *Malaysia-Australia Free Trade Agreement* (MAFTA) negotiations, DEST has identified the main barriers to trade in education and training with Malaysia. The barriers have been identified through analysis of the Malaysian regulatory environment and in consultations with industry.

DEST has also been working to remove a number of these barriers through processes such as the World Trade Organisation and the General Agreement on Trade in Services.

DEST notes that as some barriers in the education services sector can be perceived as 'legitimate' government policy, quality control or consumer protection mechanisms, it is unrealistic to expect the elimination of all barriers for the sector.

Approval and Accreditation of Courses and Programs delivered by Australian Branch Campuses in Malaysia

One of the biggest problems encountered by Australian branch campuses in Malaysia has been the accreditation procedures of both the Australian and Malaysian governments. The Full Branch Campus Universities (FBCUs) have had to meet the requirements for accreditation in both countries. The Malaysian Government has a system in place to regulate Malaysian awards which has caused issues with Australian awards. This system is very rigid and is not sufficiently adaptable to allow the awards delivered by foreign institutions to coexist with Malaysian ones.

In some circumstances, Australian providers have attempted to meet the Malaysian requirements only to find they are no longer compliant with Australian requirements. Foreign providers have, in many cases, been invited by the Malaysian Government to enter the market to deliver their high quality awards. By restricting what they can deliver and how it can be delivered, the quality of the program is being affected.

Australian providers also encounter difficulties in altering their course structure to cater to market changes and students interests due to the requirement that a licence must be obtained for each course of study and that once a license is granted there is no scope to vary the program in any way.

Qualifications Recognition

As discussed above at 1.5.1, an important issue that is being addressed is the extent to which the Malaysian Public Service Department (JPA) fails to recognise some degrees offered by Australian universities. Currently Malaysia's recognition of Australian higher education qualification occurs on a course-by-course as well as an institution by institution basis. For example, Malaysia only recognises 14 of Australia's 29 Bachelor of Law undergraduate degrees, effectively excluding the law schools whose degrees are not recognised from the Malaysian market.

The JPA's lack of recognition of the comparability of Australian degrees with those awarded by other foreign countries is a further issue which reduces the value of the qualification obtained by students and disadvantages Australian providers. Currently, it is understood that recognition is based on the nomenclature of the degree awarded, rather than by the comparability in quality and course content. In particular, the JPA does not distinguish between the Australian Honours Bachelor degrees and the three-year Bachelor degree with Honours offered by other foreign universities such as those in the United Kingdom. The mainstream Bachelor degree in the UK is the Honours Bachelor degree, which is most commonly of three years' duration. By contrast, an Australian Honours Bachelor degree requires an additional year of independent specialist research following the completion of the Bachelor degree and only students obtaining a strong academic result are invited to undertake the additional Honours year.

Australia's three year bachelor degrees are currently recognised in Malaysia as a "pass" degree, comparable to a Higher Diploma or a two year course, whereas a three year Honours degree earned in the UK is recognised as such in Malaysia.

It is important to note that some Malaysian private providers and employers recognise the Australian three year bachelor's degree as comparable to the overseas three year honours degree (such as the UK model). For this reason we aim to obtain Malaysian commitment to streamlining its recognition procedures in the JPA to equate with the private sector, and consider the recognition of Australia's three year bachelor degree comparable with the overseas three year honours degree.

Foreign Ownership

Australian institutions are among the most active in the establishment of Malaysian-foreign cooperative education programs in Malaysia, however there are a number of restrictions on their local presence.

Foreign providers must have a local partner in order to supply education services in Malaysia with the local partner being the legal entity. Total foreign ownership of an educational enterprise is not permitted, currently capped at 49%. The joint education institution must also have at least one Malaysian citizen on its board.

These barriers remain, but we recognise that Malaysia has made progress in reforming its educational sector, including recent positive steps taken by the Malaysian Government, especially with the development of legislation that will see the establishment of a national qualification framework and an agency to oversee its administration. It is believed that some of the barriers described above may be addressed via the development of this framework.

2. Science

2.1 Scientific Relations and Exchanges

2.1.1 Malaysian science and technology

Malaysia's research and development (R&D) expenditure has been rising rapidly. It increased by 47% overall between 2000 and 2002 (the latest figures available) to AU\$857 million, and its private sector component increased by 65% during this period. Despite this increase, in 2002 Malaysia's R&D expenditure as a proportion of GDP was less than half that of Australia's (0.69 compared with 1.69).

Malaysia's Ministry of Science, Technology and Innovation launched its Second National Science and Technology Policy (DSTN2) and Plan of Action in 2003. The DSTN2 addresses seven priority areas:

1. Strengthening research and technology capacity and capability;
2. Promoting commercialisation of research outputs;
3. Developing human resource capacity and capability;
4. Promoting a culture for science, innovation and techno-entrepreneurship;
5. Strengthening institutional frameworks and management of S&T and monitoring of S&T policy implementation;
6. Ensuring widespread diffusion and application of technology, leading to enhanced market-driven R&D to adapt and improve technologies; and
7. Building competence for specialisation in key emerging technologies.

The specific objectives of Malaysia's science policy are to:

- Increase R&D expenditure to at least 1.5% of GDP by 2010.
- Achieve a competent work force of at least 60 researchers per 10,000 in the labour force by 2010.

Departments and agencies associated with the Ministry of Science, Technology and Innovation include:

- Atomic Energy Licensing Board
- Malaysia Institute For Nuclear Technology Research
- National Space Agency; and the
- National Biotechnology Directorate.

2.1.2 Scientific relations and exchanges with Malaysia

Australia and Malaysia signed a *Memorandum of Understanding (MoU) on Scientific and Technological Cooperation* in 1985. The last bilateral S&T meeting under this government-level MoU, which is managed by DEST, took place in 1999.

The Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering have a (joint) Memorandum of Understanding with the Academy of Sciences Malaysia.

In general, except in the area of nuclear science, interaction between Australian science agencies and Malaysian researchers is limited. For example, AIMS and ACIAR have no current collaborative bilateral projects with Malaysia (although ACIAR does work closely with the Penang-based WorldFish Center on programmes of regional fisheries importance).

Australian Nuclear Science and Technology Organisation (ANSTO)

Australia (through ANSTO) and Malaysia are both participants in the Regional Cooperative Agreement (RCA) and the Forum for Nuclear Cooperation in Asia. RCA projects that involve both countries include three (funded by Australia) to improve regional radiological safety capabilities, specifically regional capacity to respond to radiological risks.

In the Forum for Nuclear Cooperation in Asia, Australia and Malaysia both participate in work on nuclear safety culture (a project funded by Australia), radioactive waste management, neutron beam scattering and public information. Malaysians represented around 5% of placements in Australia under the International Atomic Energy Agency Scientific Visits and Fellowships programme.

The Malaysian Institute for Nuclear Technology Research (MINT) has initiated discussions on a strengthened programme of cooperation and collaboration with ANSTO. In May 2006 the Director General of MINT, Dr Daud Mohamad, and his Deputy, Mr Adnan Khalid, visited a number of ANSTO facilities over two days and had discussions with ANSTO's CEO Dr Ian Smith and senior staff on potential areas for cooperation and collaboration.

The Australian Academy of Science

The Australian Academy of Science (AAS) is a member of the Federation of Asian Scientific Academies and Societies (FASAS). The FASAS Secretariat is hosted by the Academy of Sciences Malaysia. At the June 2004 FASAS Council meeting in Kuala Lumpur, the then AAS Foreign Secretary, Professor Kurt Lambeck, gave a lecture on Australian science education, focussing on the Academy's "Primary Investigations" programme.

In June 2005 the AAS, James Cook University and the Academy of Sciences Malaysia arranged for Professor Terry Hughes to give a lecture on "History, Ecology and the State of the World's Oceans" at the Universiti Sains Malaysia in the state of Penang.

The AAS and the Academy of Sciences Malaysia co-sponsored a workshop on "New Methods for Monitoring Immunity" in Kuala Lumpur in December 2005. Australian researchers who participated were from the John Curtin School of Medical Research and the Walter and Eliza Hall Institute. They conducted a 4-day workshop on this new/emerging technology for Malaysian graduate students and academics, developed at the JCSMR and used throughout the developed world, with applications to many branches of biological science.

At the request of the Australia-Malaysia Institute, in May 2006 the AAS met with four Malaysian journalists interested in discussing Australian science and technology, particularly biotechnology. The journalists expressed interest in the Academy's science and literacy program "Primary Connections".

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

From 1997 to 2001 Malaysia ranked between 7th and 12th in the world in terms of the number of international interactions with CSIRO. This ranking decreased to 17th in 2002 and 18th in 2004. In 2005 Malaysia's ranking returned to 12th. Not counting the 2004 data, the number of activities is close to over 30 per year.

The Prime Minister of Malaysia, the Honourable Abdullah Badawi and Dr Shukor of the Malaysian Agricultural Research and Development Institute visited CSIRO's Black Mountain laboratories in April 2005.

CSIRO's own submission to the Inquiry provides details of its collaborative projects with Malaysia.

Queensland Department of Primary Industries and Fisheries

The Queensland Department of Primary Industries and Fisheries is the lead organisation in a new collaborative project with Malaysia on "Improvements to screw-worm fly traps and selection of optimal detection systems". Project outputs will improve Australia's capability of detecting and combating screw-worm fly, an exotic insect pest present in our south-east Asian neighbour countries, which if established in Australia could cost the livestock industry up to \$900 million per annum. The project is funded by animal industry funding bodies and administered through Meat and Livestock Australia, with collaborators in Indonesia (the Research Institute for Veterinary Science in Bogor) and the Department of Veterinary Services Malaysia, to carry out field trials in Malaysia. The collaborating countries will profit from transfer of knowledge and technology in fly behaviour, trapping and control, and will be remunerated for project work.

ATTACHMENT A

Table 3: Malaysia's Higher Education enrolments showing broad fields of study by State/Territory from 2003 - 2005 (Jan-Dec data)

NOTE: In terms of enrolment numbers, only the top ten fields of study are divided by State/Territory.

Broad Field of Study	State/Territory	2003	2004	2005
Business Administration, Management	ACT	104	99	100
	NSW	684	677	700
	NT	2	5	2
	QLD	641	614	543
	SA	622	611	520
	TAS	132	158	158
	VIC	2,154	2,165	1,996
	WA	1,297	1,287	1,190
Business Administration, Management Total		5,636	5,616	5,209
Engineering, Surveying	ACT	8	10	10
	NSW	377	405	401
	NT	0	0	1
	QLD	255	311	290
	SA	417	456	421
	TAS	99	117	111
	VIC	878	895	885
	WA	176	213	235
Engineering, Surveying Total		2,210	2,407	2,354
Arts, Humanities and Social Sciences	ACT	87	77	52
	NSW	91	79	82
	NT	1	1	0
	QLD	117	146	152
	SA	80	101	111
	TAS	24	25	18
	VIC	430	458	486
	WA	305	309	313
Arts, Humanities and Social Sciences Total		1,135	1,196	1,214
Medical Science, Medicine	ACT	10	14	12
	NSW	77	117	168
	QLD	9	14	18
	SA	158	151	146
	TAS	48	51	49
	VIC	490	604	705
	WA	21	16	28
Medical Science, Medicine Total		813	967	1,126
Computer Science, Information Systems	ACT	18	15	12
	NSW	222	161	107
	QLD	363	313	230
	SA	84	73	47
	TAS	75	74	57
	VIC	900	713	480
	WA	142	140	116
Computer Science, Information Systems Total		1,804	1,489	1,049

Broad Field of Study	State/Territory	2003	2004	2005
Architecture, Building	NSW	92	78	76
	QLD	68	72	73
	SA	64	64	77
	TAS	102	103	101
	VIC	290	306	326
	WA	135	130	132
Architecture, Building Total		751	753	785
Science	ACT	10	9	13
	NSW	184	195	167
	NT	1	1	1
	QLD	50	65	76
	SA	41	47	61
	TAS	21	33	47
	VIC	150	181	185
WA	144	172	185	
Science Total		601	703	735
Pharmacy	NSW	38	37	38
	QLD	1	1	1
	SA	112	158	200
	TAS	58	56	46
	VIC	42	59	81
	WA	134	141	139
Pharmacy Total		385	452	505
Economics	ACT	10	9	14
	NSW	230	198	153
	QLD	48	51	42
	SA	17	22	21
	TAS	3	3	8
	VIC	126	143	155
WA	42	47	32	
Economics Total		476	473	425
Visual and Performing Arts	ACT	5	2	1
	NSW	42	53	59
	QLD	24	21	29
	SA	15	12	8
	TAS	10	8	4
	VIC	153	192	189
WA	59	80	61	
Visual and Performing Arts Total		308	368	351
Others	ACT Total	52	57	63
	NSW total	129	144	187
	NT Total	2	2	1
	QLD Total	216	249	265
	SA Total	155	188	200
	TAS total	87	87	79
	VIC Total	441	469	510
	WA total	236	275	317
Others Total		1,318	1,471	1,622
Higher Education Total		15,437	15,895	15,375