



## **A Submission to AusAID's**

### ***Independent Review of Aid Effectiveness***

#### **Introduction**

The Australian Academy of Science welcomes the Australian Government's Independent Review of Australia's Aid Effectiveness. The Academy has not addressed all the terms of reference as many are beyond its remit. Rather, the Academy provides a broad response that reiterates the value of science and technology in development.

Australia's overseas aid program – which doubled between 2005 and 2010, and is expected to double again by 2015 – aims to assist developing countries reduce poverty and achieve sustainable development, in line with Australia's national interest. Globally there is a general consensus that giving aid is an issue of security as well as morality and fairness. It improves our regional security by helping partner governments improve law and order, recover from conflict and manage a range of transnational issues such as people trafficking. Australia can play a leadership role to ensure sufficient and coordinated aid is available from donors to developing nations of South East Asia and the Pacific.

However, there is also general consensus that at a global level at least, aid is not always working. Driven by science and technology, the world is changing at a rapid rate. The gap between rich and poor countries is widening and the problems facing the developing world continue: incidence of infectious diseases such as HIV/AIDS, protectionist trade policies, sharing common problems such as global warming, and so on.

It is accepted that effective aid depends on many factors such as a sound and stable policy framework, market based policies which encourage integration in the global economy, and good governance, transparency and accountability.<sup>1</sup>

The Australian Academy of Science believes that an important way of improving aid effectiveness is to raise both the extent to which aid delivery is scientifically based, and the funding for science and technology (S&T) research and development. The term 'science and technology' is used broadly, and includes the natural sciences, engineering, technology, the health sciences and the social sciences.

Thus, while more effective delivery of aid will help address the gap between rich and poor countries, the problems in the developing world cannot be solved without also

strengthening S&T. The link between innovation and economic productivity has been established in a number of studies, including the Government's own Cutler Review in its report *Venturous Australia*.<sup>2</sup> There has to be greater attention to the needs of capacity-building in S&T, as this is the engine that drives knowledge based development and is essential for economic growth.

### **Strengthening the role of science and technology**

The need to strengthen S&T comes from several sources. Driven by the accumulation of scientific knowledge and technological applications, the world is changing at a rapid pace. However, benefits are often not shared equitably. Moreover, there is also a vicious cycle, with developing countries (especially those that lag in S&T) falling further behind the industrialised nations. A consequence of weak S&T is that developing countries will fail to apply scientific advances and new technologies creatively, thereby exacerbating the current disparity.

The 2004 report by the InterAcademy Council (IAC), *Inventing a better future: a strategy for building worldwide capacities in science and technology* called for a global movement to address the S&T need.<sup>3</sup> The IAC was created by national science academies to mobilise the world's leading scientists to provide expert knowledge and advice to international bodies such as the UN and World Bank who are charged with addressing these issues.

S&T must, therefore, become rooted in the social fabric of developing countries. This sentiment was echoed recently in a *Science and Development Network* editorial which stated that:

*the biggest single factor limiting developing countries' potential for achieving sustainable economic growth – or even attaining the Millennium Development Goals – is their ability to access and apply the fruits of modern science and technology.*<sup>4</sup>

While the editorial readily acknowledged that there are many obstacles – political and economic – to accessing S&T, it is nonetheless crucial that capacity building that helps developing nations use S&T be 'at the heart of both international aid policies and broader diplomatic initiatives'.

In its 2007 submission to the UK Department for International Development's (DFID) consultation on its *Research Strategy 2008-2013*, the Royal Society provided a number of recommendations on science, engineering, technology and innovation capacity building. These play an essential role in development and poverty alleviation, and it called on DFID to reinforce this message to key policy makers in both the UK and developing countries.<sup>5</sup> It went on to say that:

*scientists from developing countries must be involved in identifying and tackling the problems that affect them...Making the best use of local scientists and facilities in the design and implementation of programme work builds capacity and ensures sustainability.*

More recently in its submission to the DFID White Paper *Eliminating World Poverty: Assuring our Common Future*, the Royal Society reiterated some of those challenges and recommendations to DFID, urging it to support building of indigenous scientific capacity in developing countries to meet locally and regionally defined challenges.<sup>6</sup>

This included improving countries' abilities to carry out their own research and make best use of existing research. It also encouraged DFID to support processes that promote evidence-based policy making that draw on the very best indigenous research expertise in-country, and emphasised that key policy challenges of the future such as climate change, food security and renewable energy, require 'increased scientific literacy within governments of developing countries'.

Developmental aid, therefore, must be better directed to provide greater attention to the needs of capacity building in S&T which in turn will drive knowledge-based development. Part of this is fostering better science communication, which as a developmental strategy is on the increase and include the aid agencies of Canada, the Netherlands, Sweden and the UK. This includes ensuring that the teaching of science through hand on approaches at primary and secondary levels is incorporated as a fundamental element of basic education.

### **Science diplomacy**

Science diplomacy – a broad term to describe a variety of ways in which scientific and diplomatic efforts can overlap – has risen in a number of countries.<sup>7</sup>

As already indicated, science provides our understanding of key global issues such as energy access, food security, climate change and infectious diseases, and underpins global responses. It stands to reason, therefore, that scientific expertise should be a fundamental part of diplomatic efforts. As single nations can neither solve them alone nor develop solutions to every problem, scientific cooperation becomes an increasing necessity.

While the idea of science diplomacy is not new<sup>8</sup>, it is an evolving and growing practice. A meeting jointly hosted by the UK's Royal Society and the American Association for the Advancement of Science (AAAS) in 2009, explored how science can contribute to foreign policy objectives. The report of that meeting developed three dimensions of this concept<sup>9</sup>:

- Scientific advice informing foreign policy objectives (science in diplomacy)
- Facilitating international science cooperation (diplomacy for science), and
- Using science cooperation to improve international relations between countries (science for diplomacy).

One of the ways Australia can offer science diplomacy is through the provision of S&T aid to developing countries. These and other aspects are explored further in the Academy's *Internationalisation of Australian Science: A position paper* 2010.<sup>10</sup> A good example is the Colombo Plan, of which Australia was a founding member in 1950. It was established for cooperative economic development in South and Southeast Asia – today called the Colombo Plan for Cooperative Economic and Social Development in Asia and the Pacific. One aspect of the Plan involved the sponsorship of tertiary students from the Asia-Pacific region to study in Australia. Many of those students eventually returned to their own countries where they rose to high level positions within their own science and government structures.

In October 2009 a US Presidential Directive was issued which announced a new program for development aid. It recognised development as an essential component

to advancing the US's national security objectives. Moreover, it was to invest in S&T innovations that address the world's problems and increase public funding for development-focussed research by several means, including by 'increasing developing countries' creation and utilization of science and technology and removing impediments to innovation faced by the private sector'.<sup>11</sup>

In December 2010, the US released the Report of the first Quadrennial Diplomacy and Development Review *Leading through Civilian Power*. It echoed the October Presidential Directive but also emphasised the non-military strength of development and diplomacy, that is, 'the civilian side of the government working as one.'<sup>12</sup> The US is now actively promoting science diplomacy as a central component of the strategy for forging links with Muslim countries and Indonesia.

The Royal Society's recent paper *A New Golden Age? The prospects for science in the Islamic world*, profiles some of the advances in science and innovation, and the barriers to further and faster progress. It acknowledges that:

*faced with mistrust and suspicion between the governments and peoples of many OIC [Organisation of Islamic Conference] countries in the West, collaboration and exchange could not be more important', but 'through science diplomacy, cooperation can be an important tool through which to improve international relations'.*

In summary, science diplomacy can be an important bridge to communities where political ties are weak. One illustration of a promising initiative of regional collaboration being the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME), currently under construction in Jordan.

### **Organisational structure of AusAID**

One of the terms of reference of the review, item (d), is that the review will 'focus on the appropriate future organisational structure for the aid program, including:

- AusAID's organisational structure for aid delivery.

While it is appropriate that AusAID has a Climate Change and Environment Branch in its current structure to help address the challenge of climate change in the delivery of aid to developing countries, a more scientifically robust approach to all aid delivery is required. Scientists can play a key role in aid delivery by bringing rigour and data to understanding immediate and future developmental needs.

In this context, the recently announced CSIRO Strategic Partnership with AusAID will provide valuable access to extensive national scientific resources. The Alliance projects – the three key initial focal areas being responding to climate change, water, and sustainable cities and energy – will achieve impact through influencing AusAID's development policies, investments and projects, as well as informing international stakeholder policies and decisions.

Notwithstanding this, the Australian Academy of Science believes that the appointment of a Chief Scientific Advisor would go some way to providing the appropriate scientific advice in formulating aid delivery. One of his or her primary roles would be to lead the efforts of AusAID to introduce S&T into all of its

programs. Borrowing from the role of the UK Chief Scientific Advisor, it is envisaged that other aspects of his or her tasks would include:

- Identify areas where S&T can be applied to poverty reduction and improvements in health, food security, and other aspects of UN MDGs
- Advise AusAID on how its own staff can access and understand S&T, and
- Promote ways for AusAID and other Government departments to make greater use of S&T in reducing global poverty.

In this regard Australia appears to lag behind other developed countries. For example, in 2004 the UK aid agency DFID announced the appointment of a Chief Scientific Advisor – a move welcomed by the Royal Society, who went on to stress that the post holder should have the standing and power ‘to be taken seriously both within DFID and across other departments, as well as with the scientific community at large.’<sup>13</sup> DFID went on to appoint Gordon Conway – formerly President of the Rockefeller Foundation – as its first chief scientific advisor. The establishment of the position followed criticism that DFID lacked an adequate scientific perspective in its policies.<sup>14</sup>

The appointment soon brought dividends and in 2006 DFID pledged to double its funding for S&T by 2010, with a focus on achieving progress towards the UN MDGs, including committing more funds for research into better drugs for diseases common in poor countries, and new technologies for water treatment, agriculture and adapting to climate change.<sup>15</sup> In 2009 the office of Chief Scientific Advisor was boosted with the creation of a Research and Evidence Division and the appointment of 14 eminent researchers as Senior Research Fellows. This, together with its collocation with the Policy Division, would help ensure that evidence generated by research would be at the heart of policy making.<sup>16</sup>

In October 2010 the US Agency for International Development (USAID) announced the launch of Development Innovation Ventures (DIV), a new department devoted exclusively to fostering innovation in the delivery of global aid.<sup>17</sup> Harvard economist Michael Kramer was appointed as Scientific Director of the DIV, which would seek out and invest in high-risk, high-return projects that offer inventive and scalable solutions to global social problems. In its first round of funding DIV chose eight US-based investees to receive between \$99,000 and \$230,000 of USAID’s \$21 billion budget. Among the investees are a mobile reporting platform for Afghanistan, a solar lighting framework for Uganda, and a rapid pregnancy-induced hypertension diagnosis test for Nepal developed at Johns Hopkins.

## **Conclusion**

The Australian Academy of Science welcomes the Australian Government’s comprehensive review of its aid effectiveness and its intention to double the amount of aid by 2015; increased funding would give a welcome boost to research on such issues as health, water and climate change in developing nations.

The Academy also urges the Australian Government that the place of S&T capacity building should be secured amongst the priorities, and use S&T as a means of influence in its aid delivery across the range of its concerns, including climate change, poverty, infectious diseases and energy security.

The Academy also believes that an important way of improving aid effectiveness is to raise the scientific perspective through which aid is delivered. An important first step would be the appointment of a Chief Scientific Advisor who would lead AusAID's efforts to introduce S&T in all of its programs.

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<sup>1</sup> Australia's Aid Program <http://www.globaleducation.edna.edu.au/globaled/go/cache/offonce/pid/24>

<sup>2</sup> <http://www.innovation.gov.au/Innovation/Policy/Documents/NISReport.pdf>

<sup>3</sup> <http://www.reliefweb.int/library/documents/2004/icrc-wld-28jun.pdf>

<sup>4</sup> David Dickson (16 July 2010) *Science, communication, aid and diplomacy* at:

<http://www.scidev.net/en/editorials/science-communication-aid-and-diplomacy.html>

<sup>5</sup> <http://royalsociety.org/Royal-Society-submission-to-DFIDs-consultation-on-its-Research-Strategy-2008-2013/>

<sup>6</sup> [http://royalsociety.org/Report\\_WF.aspx?pageid=7873&terms=dfid&fragment=&SearchType=&terms=dfid](http://royalsociety.org/Report_WF.aspx?pageid=7873&terms=dfid&fragment=&SearchType=&terms=dfid)

<sup>7</sup> Kurt Lambeck (2010) "The new role of science in diplomacy; challenges and opportunities" FEAST – Forum for European –Australian Science and Technology at:

[http://www.feast.org/publications/FEAST\\_Roxby\\_2010.pdf](http://www.feast.org/publications/FEAST_Roxby_2010.pdf)

<sup>8</sup> For example, a 1979 agreement between the US and China paved the way for bilateral scientific cooperation, and US and Soviet NGOs contributed to the Cold War thaw through scientific exchanges, with little government support.

<sup>9</sup> The Royal Society (2010) "New Frontiers in Science Diplomacy: navigating the changing balance of power" at: <http://royalsociety.org/New-frontiers-in-science-diplomacy/>

<sup>10</sup> <http://www.science.org.au/reports/documents/InternationalisationAustralianScience.pdf>

<sup>11</sup> <http://www.whitehouse.gov/the-press-office/2010/09/22/fact-sheet-us-global-development-policy>

<sup>12</sup> <http://www.state.gov/documents/organization/153108.pdf>

<sup>13</sup> <http://royalsociety.org/News.aspx?id=972&terms=dfid&fragment=&SearchType=&terms=dfid>

<sup>14</sup> <http://www.scidev.net/en/news/rockefeller-boss-to-put-science-into-uk-development.html>

<sup>15</sup> <http://www.scidev.net/en/news/uk-aid-agency-doubles-funding-for-scientific-resea.html>

<sup>16</sup> DFID *Research 2009-2010: Providing research evidence that enables poverty reduction* at:

<http://www.dfid.gov.uk/r4d/PDF/Publications/rsrch-rpt-09-10.pdf>

<sup>17</sup> <http://www.usaid.gov/press/releases/2010/pr101008.html>