



## Royal Society submission to the Department for International Development White Paper on Eliminating World Poverty consultation

**April 2006**

The Royal Society welcomes the opportunity to respond to the Department for International Development consultation on its White Paper: Eliminating World Poverty. We acknowledge the steps that DFID has made to ensure that science, engineering, technology and innovation (SET&I) play an increasingly important role in its work.

This document has been approved by the Council of the Royal Society.

We have not directly addressed each question in the White Paper consultation document. Instead, we have provided a broad response in areas which DFID should consider. Our submission echoes suggestions that we have made in previous DFID consultations. We hope that DFID will make real strides in ensuring SET&I underpin its work and encourage other key international stakeholders to view SET&I fundamental to their activities.

2005 was a significant year for raising the profile of Africa and the development agenda in general. A number of key reports had identified the essential role of SET&I in poverty alleviation, sustainable development and economic growth. However, we are concerned that there has been little progress to realise the recommendations of the Commission for Africa and the G8 communiqué on Africa, particularly in relation to SET&I and higher education. We hope DFID will continue to press for international support as coordinated global effort is necessary for these recommendations to come to fruition.

The development of DFID's Science and Innovation Strategy which began last year is encouraging and the Royal Society looks forward to seeing the final product. We hope that the Science and Innovation Strategy will feed into the White Paper on Eliminating World Poverty to ensure that there is true coordination and cohesive thinking in the role that SET&I are to play across DFID. SET&I are crucial cross-cutting themes in poverty elimination and the achievement of the Millennium Development Goals.

### **Summary of key points**

- Urgent steps are needed to narrow the knowledge gap between developing and developed countries
- Developing countries will need home-grown expertise to provide scientific, evidence-based solutions and models to adapt and prepare for the possible consequences of global change.
- Much more needs to be done to help revitalise and direct tertiary level educational institutions towards developing countries' national needs, poverty alleviation and economic growth.
- DFID should aim to support initiatives which will help to build the critical mass of science policy advisors to developing country governments.

- Messages from DFID and the international community that SET&I are integral to poverty alleviation and development will do much to highlight the importance of including SET&I as a crucial component in Poverty Reduction Strategies and in turn will improve the treatment of SET&I in Country Assistance Plans.

### *SET&I capacity building*

There is widespread recognition that knowledge is a crucial component of economic revitalisation. Developing countries are seriously lagging behind in the knowledge economy while wealthier nations are making new ground in science and technology at a speed which developing countries will find impossible to equal. Critical steps are needed to narrow the knowledge gap between developing and developed countries. In many countries SET&I institutions are weak, and skills are nowhere near the required level for the development of the knowledge economy. African countries in particular must be able to develop, adapt and exploit scientific and technological solutions appropriate to their specific needs.

Developing countries urgently need to develop their SET&I expertise to deal with global change and the potential impacts on development. In particular, climate change and environmental degradation could have profound effects on the livelihoods of the poorest. Developing countries will need home-grown expertise to provide scientific, evidence-based solutions and models to adapt and prepare for the possible consequences of global change. Underpinning environmental research, including long-term research programmes, could provide a substantial contribution to the lasting success of poverty alleviation projects and enable beneficial innovations in the future. SET&I capacity building in developing countries will require long-term investment and commitment. We strongly recommend that DFID ensures it is featured prominently in the forthcoming White Paper.

### *International migration*

There has been much concern regarding the 'brain-drain' of skilled labour from developing countries to wealthier ones. The migration of academic labour in particular has a crippling effect on the economic well-being of developing countries. Academic labour is crucial to societies because of its role in high-level research, its contribution to innovation resulting in exploitable products and ideas, and its vital function in the development of a new generation of skilled professionals.

Although international migration should not be discouraged, measures can be taken to help developing countries retain their academic labour. Much more needs to be done to help revitalise and direct tertiary level institutions towards developing countries' national needs, poverty alleviation and economic growth. Conditions in universities and research institutions are such that researchers find huge barriers to functioning properly. Faculty members in many universities in Africa are lacking basic equipment and access to literature. They are overwhelmed with their administrative burden and the considerable number of students they must teach, leaving little time to carry out research.

### *Strengthening HE*

We would encourage DFID to take a holistic approach to education, looking not only at primary but secondary and tertiary level as well. Highly trained individuals are crucial for detecting SET&I opportunities and to develop useful policies in resource management, poverty alleviation, development and wealth creation. There is increasing consensus that expanding tertiary education may promote faster technological catch-up and improve a country's ability to maximise its economic output.

Research capacity in Africa is far below the level that is needed to fully exploit the gains that can be made through the creation, dissemination and adaptation of SET&I. Scientists and engineers from the developing world would benefit significantly from partnerships with scientists and engineers in the developed world. Networks help to build the research capacity of academics in developing countries through access to high quality laboratories, world-class research and knowledge sharing.

We welcome DFID's new approach to the Higher Education Links scheme, now titled Development Partnerships in Higher Education, which recognises that greater attention should be paid to science and technology, capacity building and gender equality. However, there needs to be significant investment and policies which reflect a commitment to revitalising Higher Education in Africa by international donors. The 2000 DFID White Paper on Eliminating Poverty indicated that nearly 80% of total education commitments were focused on primary education and DFID's priority focus remained effective investment in primary schooling.<sup>1</sup> Although primary education is highly important to poverty alleviation, there needs to be a more balanced and holistic approach to education, and therefore a greater focus on secondary and tertiary levels.

#### *Good governance and country-led development*

In the knowledge-based economy, science advice is critical. Leaders and governments need science advisers to make sound decisions on national and international issues, particularly to make effective use of emerging technologies. Many African countries do not have a sufficient pool of people who have specialised skills in science, technology and innovation policy analysis. Platform technologies like ICT, nanotechnology and biotechnology have huge implications and broad application to social and economic development. Their function in helping to achieve the Millennium Development Goals is crucial. Countries will need adequate expertise to translate the benefits of technologies into policy. Science, technology and innovation must be infused into the minds of government departments across the board and should be placed at the heart of the development process.

Science and technology are increasingly global and countries must have suitable advice to take part in international negotiations and diplomacy. Many international issues, particularly ones linked to science, are borderless and developing countries need the capacity for scientific analysis to have a voice in negotiations and cooperation in areas like climate change, biodiversity, energy and intellectual property. DFID should aim to support initiatives which will help to build the critical mass of science policy advisors to developing country governments. Countries must be able to create, use and adapt SET&I solutions appropriate to their own needs, otherwise they risk becoming ever more dependent on advice and assistance from the developed world. Furthermore, SET&I training can develop fundamental understanding of the world, logic and evidence-based reasoning skills that are highly valued in industrial and good government environments.

#### *Improving SET&I representation in Poverty Reduction Strategies and Country Assistance Plans*

Many in the developing country science communities have expressed their concern that SET&I have not been appropriately represented in Poverty Reduction Strategies and have articulated the difficulties they face in trying to influence their policy-makers and ministries of finance to appreciate the critical roles of SET&I in socio-economic planning. There is a need for international donors like DFID to promote SET&I and help demonstrate the link to poverty to decision-makers at the highest level. Messages from DFID and the international community that SET&I are integral to poverty alleviation and development will do much to highlight the importance of including SET&I as a crucial component in Poverty Reduction Strategies and in turn will improve the treatment of SET&I in Country Assistance Plans.

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<sup>1</sup> DFID (2000). *Eliminating World Poverty: Making Globalisation Work for the Poor*. White Paper for International Development, DFID UK.

It is also very important to raise the ability of developing country officials to be sufficiently literate in science policy formulation and to increase the ability of scientists to communicate their areas of work at a policy level to ensure that SET&I are well-represented in Poverty Reduction Strategies. If the science community and government officials are adequately supported through training programmes and given access to the necessary information and resources, then these professionals will be enabled to formulate national policies on SET&I which will have a direct impact on poverty and development.

Different developing countries will have different levels of SET&I in place, some will have well-thought out national strategies for SET&I while strategies of others may be close to nonexistent. A number of countries have in place detailed plans but no implementation strategies and limited resources to realise their plans. DFID and the international community will need to take into consideration these country differences when determining how they will support SET&I in Poverty Reduction Strategies and Country Assistance Plans.