

# WHY SCIENCE IS IN THE DIPLOMATIC TOOL KIT



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In 2010, the Royal Society published a report on “New Frontiers in Science Diplomacy”, which set the scene for UK science diplomacy in the 21st Century. This built on over 280 years of international science engagement since the Royal Society appointed its first foreign secretary, Philip Zollman, in 1723. The UK Government’s first Foreign Secretary, the colourful Charles James Fox, was only appointed in 1782! This paper reminds us of the various contributions of science diplomacy, reviews the current state of play and looks to the future.

## WHAT IS SCIENCE DIPLOMACY?

In addition to the traditional foreign policy issues of security, trade and international relations, there is a host of new challenges, including food and energy security, health (Ebola, anti-microbial resistance, AIDS), national disaster management and the environment (climate change). These demand international collaboration and require new ways of working, including science diplomacy.

Science diplomacy has been defined as “the use and application of science cooperation to build bridges and enhance relationships among

societies, with a particular interest where there might not be other mechanisms for engagement at an official level<sup>3</sup>”. It is an evolving concept but it applies to the role of science, technology and innovation in: informing foreign policy objectives by supplying scientific advice (science in diplomacy); facilitating international science cooperation (diplomacy for science); and using science cooperation to improve international relations (science for diplomacy).

*Science in diplomacy* is akin to evidence-based policy making: the principle that the best policy decisions are those that are informed by expert advice and evidence. This could include economic advice and statistics about trade opportunities, social research on behaviour or perhaps information on technological advances. Science can play a particularly important role during emergencies when a State’s response can rely heavily on predictions of how events are likely to unfold. During the Fukushima nuclear power plant accident in Japan, science advice underpinned the decision by the UK embassy in Tokyo not to evacuate personnel, leading to a long term benefit to UK-Japan relations.

*Diplomacy for science* builds networks for research cooperation. Researchers have always sought out the best people with whom to collaborate. National academies are increasingly international in their scope and reach. Programmes such as the Newton Fund<sup>4</sup> and the European Commission Framework programmes<sup>5</sup> facilitate collaboration. High-level national engagement/diplomacy is essential to ensure that the

scope of the Framework programme aligns with UK’s expertise to ensure UK scientists can access such funds.

*Science for diplomacy* is especially important when normal diplomatic relations are difficult or even impossible. The scientific community often works beyond national boundaries so is well placed to support forms of diplomacy that do not depend on traditional alliances and can be an important source of “soft power”. This was recognised in a 2014 House of Lords report<sup>6</sup> which recommended that the UK Government should identify ways in which science can inform diplomacy. Scientists also provide longevity, developing and maintaining international relationships, complementing the shorter-term personal relationships of diplomats and politicians. The international relationships of scientists at RBG Kew are excellent examples of this.

UK excellence in research is acknowledged overseas<sup>7</sup> and as such the UK is in an especially good position to use science for diplomacy. It enhances our national reputation, opens doors to influence trade and investment, and can help with power projection when used appropriately. Further benefits arise, such as when other nations use our science structures or standards, making the UK a natural trade partner, or when overseas students, who studied in the UK, maintain their connections, building confidence and relationships that will last decades.

## WHAT IS THE UK DOING?

There are many examples of UK institutions contributing to science for diplomacy. Our

learned societies have played a particularly important role. The Royal Society as a sequel to its Commonwealth Science Conference (in November 2014), is working with the Commonwealth Secretary General to put science at the heart of the Commonwealth agenda. The Royal Academy of Engineering is currently supporting an academic industry exchange scheme, with the University of Zimbabwe as one of the hubs.

Academics can work in places where diplomatic relations are fragile. The Royal Society brokers arrangements by which volcanologists from Imperial College and Cambridge have been working with North Korean scientists to monitor Mount Paektu, responsible for one of the largest eruptions in history.

The British Council has commented that science and research diplomacy is one of the most powerful tools for building trust and understanding with the Islamic Republic of Iran<sup>8</sup> (IRI). IRI has maintained some leading science education and research facilities; IRI scientists contribute to projects such as CERN, and lead the region in terms of contributions to peer-reviewed journals. The UK’s science and research is highly regarded in Iran, and there is a strong desire to move forward with exchange and research partnerships.

After a hiatus of several years, a strategic agreement on cooperation has been signed by the British Council, The Royal Society and the Russian Foundation for Basic Research, opening the way for collaboration. President Putin’s Russian Academic Excellence Project provides opportunities to engage with the university sector

and facilitate links and collaboration between Russia and the UK. This will ensure that Russian universities are represented on the world stage, achieving excellence in teaching and research. Maintaining scientific dialogue continues to be important for Russia.

In 2001, the UK government set up the Science and Innovation Network (SIN), to link science directly to its foreign policy priorities. SIN contributes to *diplomacy for science* by providing: a gateway to science and innovation (S&I) opportunities, for UK and host country research institutions, universities and businesses; policy insight through a two-way flow of ideas in the UK and partner countries; new international partnerships, acting as a catalyst for new projects. It also contributes SIN experts in our overseas Posts, working closely with partner organisations, and in particular UKTI, to promote engagement. SIN is focusing on specific themes to increase impact and ensuring a balance between “quick wins” – and longer term strategic and diplomatic gains.

Since August 2009, the Foreign and Commonwealth Office (FCO) has had a Chief Scientific Adviser (CSA), who provides advice to the Foreign Secretary, Ministers and officials on science, technology and innovation. The CSA ensures that the FCO’s work on key issues undergoes proper scientific challenge, strengthening the use of scientific advice to underpin policy. The FCO has set up a Diplomatic Academy for FCO staff, and the curriculum includes science and innovation, ensuring that FCO staff are better informed about science diplomacy. It also builds more links between the FCO and other key UK science stakeholders.

## WHAT DO OTHER COUNTRIES DO?

France has long recognised the importance of scientific cooperation and research as key

to its influence on the world stage<sup>9</sup>. The French government is intending to increase its contribution to world science, especially through Horizon 2020, the forthcoming EU Framework Programme for Research and Innovation, and as part of the European Research Area reform agenda.

In the United States, a move towards enhanced science diplomacy has been reflected by the appointment of Science Envoys tasked with resuming a dialogue with the elites in the Muslim world (Middle East, Africa, and South-East Asia), and also through a \$1.6 million university cooperation programme with Africa. In December 2014, President Obama announced plans to establish new diplomatic ties with Cuba, including changes that will make it easier for scientists in the two countries to collaborate.

Other countries recognise the value of Science Envoys. Professor Sir Peter Gluckman, New Zealand’s Chief Scientific Adviser, assists New Zealand’s diplomatic efforts, including acting as New Zealand’s Science Envoy. At the end of August 2014 Sir Peter convened the first meeting of science advisers to discuss science diplomacy.

While much science diplomacy proceeds through bilateral projects and agreements, multilateral organisations also play a key role. The European Organization for Nuclear Research (CERN) was created in 1954 by 12 member nations and is now run by 20 European member states with many non-European countries also involved. Scientists from some 608 institutes and universities around the world use CERN’s facilities. The successful landing on comet 67P/Churyumov–Gerasimenko of the *Philae* robotic European Space Agency lander (November 2014) showed the value of international collaboration<sup>10</sup>.

A powerful example of multilateral progress is provided by the Intergovernmental Panel on Climate Change (IPCC). The IPCC is the leading international body for the assessment of climate change. It was established in 1988 to provide a scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts. In 2007, the IPCC and Al Gore were awarded the Nobel Peace Prize “for their efforts to build up and disseminate greater knowledge about man-made climate change” – a clear example of the power of science diplomacy.

An older example comes from the sharing of weather data since the 19th Century. By 1995, the Members of the World Meteorological Organisation (WMO) formally agreed they shall “provide on a free and unrestricted basis essential data and products ... required to describe and forecast accurately weather and climate”. The current 191 Members share data every hour. This provides the foundation of the Met Office’s ability to deliver effective forecasting services in the UK and overseas, with 96% of the data needed to run our weather model coming from other countries and organisations. These essential data and derived products usually keep flowing, even in times of conflict or political unrest. There is still free exchange between Russia and Ukraine.

## WHAT MIGHT THE FUTURE HOLD?

Since the Royal Society published its report, science diplomacy – in all its forms – has become increasingly important.

UK scientists are increasingly leveraging international funds and are working with international partners to ensure their work has impact: scientific papers derived from internationally collaborative

projects are cited more often; and in the UK there is more access to funding for international co-operation. Governments are keen to promote collaboration to advance prosperity, and open access to markets.

The value of science for diplomacy is more widely recognised as a valuable tool for improving international relations, particularly when other forms of diplomacy won’t work. More foreign ministries are appointing science advisers, science envoys or scientific advisory committees to steer activities.

It is a challenge to assess the impact of science diplomacy. While the overall impact is long-term, it is built upon more rapid successes from diverse activities. It is increasingly important to justify activity and criteria need to be established against which to make assessments, so that funding decisions can better reflect the contributions made by international activity.

Science diplomacy will be part of the mechanism through which the UK Government’s current investment in research can deliver greater prosperity. For the FCO this will mean an increased science-engagement role, delivered in particular by the SIN, providing scientists and engineers with better understanding of overseas structures and opportunities, thereby helping to maximise benefit for the UK.

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