

Draft project proposal:

High-level meeting of national-level science advisers

A proposal to organise a meeting that brings together senior scientists with leading positions on science for policy at the national level, to discuss opportunities, challenges and best practices on national science-policy processes. This would include chief scientific advisers (CSAs) in countries where CSAs are in place. Beyond its initial discussions, this meeting could generate an ongoing global network for exchange and dialogue.

Aims

- To identify key high-level scientists in each country to participate in a meeting of national science advisers.
- To determine the national science-policy processes and structures that are in place around the world.
- To provide a neutral forum for national science advisers to discuss experiences and best practices.
- To elucidate generally recognised guidelines on improving science-policy links at the national level.
- To determine if there is value in creating an ongoing network of national science advisers, with regular meetings.

A meeting of national-level science advisers

Those tasked with providing national scientific advice to governments would benefit from an international forum in which they can discuss their experiences, share best practices and support each other in further developing and refining science-policy links in their countries.

The current space for such interaction, the Carnegie Group of Science Advisers tied to the G8, has recently expanded to include national science advisers (CSAs or science ministers) from Brazil, China, India, Mexico and South Africa. However, it is widely recognised that a more open global network would be of great benefit (Doubleday and Wilsdon 2012). ICSU can provide a neutral, non-political meeting for high-level national science advisers to meet. This would include countries not currently associated with the Carnegie Group.

The meeting will be designed as an informal gathering of scientists with strategic responsibilities in advising government at the most senior level. The aim will be to share knowledge, strategies and opportunities and build relationships. The participants will be intended to be scientific and policy focused rather than political or funding focused.

The meeting would include senior scientists with leading responsibilities for providing advice on science for policy and policy for science, including chief scientific advisers (CSAs) in countries where CSAs are in place. Defining who these senior scientists are in many countries will be a large part of this project. ICSU has a good connection to national-level processes through its National Members, and this would aid greatly in the process of defining participants for the meeting.

Providing opportunities for dialogue with policy-makers and political scientists who study science-policy processes could also be another secondary function of this meeting.

Such a meeting would aid in the enhancement of national science-policy processes, through sharing of best practices and experiences. Furthermore, by developing a general understanding across borders about how scientific evidence should be used in policy-making, it would also aid in international collaboration between groups of scientists and policy-makers on environmental or social issues that transcend national borders, such as emergency response, watershed management, disease pandemic control or the formulation of international treaties.

A thematic focus on issues commonly facing science advisers at the national level could be used to channel discussions, for example:

- protocols for independent scientific advice at the national level
- regulation of scientific research
- internationally agreed scientific standards
- risk assessment, forecasting and emergency response
- science and economic growth
- Advisory bodies – pros and cons
- Dealing with scientific uncertainty
- Interdisciplinarity (particularly with social sciences)
- Relationships between policy formation and science – the role of science advisors
- Science and the media

Another aim of creating a meeting for national science advisers would be to stimulate the creation of an ongoing, active international network of national-level science advisers, which would be of lasting benefit at both national and international levels.

Methodology and timeline

- 2013* Creation of a working group (6-7 participants) of senior science advisers to develop the meeting's participants list, agenda etc.
- 2013* A scoping process to determine:
- the guidelines, processes and institutional frameworks that are in place globally at the national level for science-policy;
 - key people to make up an international network;
 - key issues to be discussed at the meeting.
- 2013-2014* Preparations for a meeting for national-level science advisers.
- August 2014* A high-level meeting of national-level science advisers.

Background

There is a growing recognition of the need to improve links between science and policy-making. In the past – and in many quarters still today – there was an assumption that the availability of sound scientific knowledge would ensure that policy-making is founded on this knowledge. However, it is increasingly realised that this is often not the case. In some countries, this recognition came suddenly, due to disasters or emergencies when the disconnect between science and policy became

evident, for example the BSE crisis in the UK or the Fukushima disaster in Japan. These events have shaken the public's trust in both science and policy. In other areas it has slowly become apparent that scientists are not succeeding at being heard in policy arenas. In other countries a bigger driver has been the perceived relationship between science and economic growth, bringing a desire to explore and formulise the relationship between science, innovation, policy and business. All these different factors have led to calls to improve the knowledge-base of decision-making, and to improve science-policy links in national and international governance.

In many countries little progress has been made and there are still no clearly defined links between science and policy. In others, increasing efforts are being made to define and enhance this relationship but even in these countries the outcome has been rather uneven. Some governments have created guidelines on how science should be used in policy-making. Guidelines aim to give guidance on the thorniest issues facing both policy-makers and scientists, including: maintaining the independence and perceived objectivity of scientists; increased burdens of responsibility and transparency on scientists; differing timescales on which scientific advice is needed and produced; and dealing with uncertainty and an interdisciplinary diversity of views within the scientific community.

An increasing number of countries have appointed either a 'chief scientific adviser' (CSA) or senior scientist linking strategic advice on science and innovation to policy processes. The CSA model, which has been employed in the UK at various different levels of government, has drawn increasing attention, as a method of getting scientific advice to the heart of decision-making processes. CSAs, albeit with varied terms of reference, are now in place in New Zealand, Australia, Ireland, the Czech Republic, the European Union and Malaysia, and are being considered for Japan and the United Nations. Subnational CSAs have also been appointed in some States/provinces of Australia and Canada and the UK. Science advisory bodies have also been created in some national governments to improve access to scientific expertise, often working on specific issues and tied to specific governmental departments.

However, many of those tasked with providing scientific advice to governments still often find themselves navigating an ambiguous road between science and policy-making. National-level science advisers may find it difficult to work effectively with policy-makers in the face of political dynamics in which economic factors take a high priority, where ingrained processes and ideologies may influence the ways that policy-makers interpret and utilise scientific evidence, and where institutional frameworks already in existence may form barriers to effective collaboration and influence. A single CSA may also struggle to bring to bear the interdisciplinary expertise and networks needed for addressing a wide range of complex issues, as different situations within a single country may require different science-policy mechanisms. The science and policy interactions involved in disaster or emergency response will be quite different from those required for long-term poverty eradication schemes, for mitigating climate change, or for building policies that regulate controversial scientific advances such as stem cell research or geo-engineering. Moreover, guidelines on science for policy have not always been well received by the scientific community, and can be perceived to actually limit the freedom of scientists and weaken the need for governments to consider scientific advice.

This has led to calls to further analyse science-policy links, including the roles of CSAs, guidelines and advisory bodies. It has also been noted that the UK's CSA model, which works quite well in that particular political context, may not be suitable in different countries with different political systems. It is important that any efforts to analyse and improve national-level mechanisms do not proceed in isolation, so that they can inform each other, and provide experience and lessons-learned for newly conceived efforts in other countries (Arimoto and Sato 2012). There can be no one-size-fits-all solution for improving science-policy links, as differing political, scientific and financial institutions

and contexts already existing in each country will determine the most appropriate solution. However, useful lessons can be drawn across borders.

For example, risk assessment and forecasting and emergency response, around issues such as natural disasters or disease pandemics, are perhaps some of the most pressing issues facing scientists and policy-makers, and could be one focus of an effort to draw lessons on science-policy interactions across borders. Crucial lessons can be learnt from comparing the generally successful experiences of scientists and policy-makers responding to the eruptions of Eyjafjallajökull and the rather less successful efforts in Japan to respond rapidly to the Fukushima disaster, or the efforts of the Chinese government to control the information released around the outbreak of SARS. A high-level meeting of national-level science advisers could begin to address some of these complex issues.

References

Tateo Arimoto and Yasushi Sato (2012) Rebuilding Public Trust in Science for Policy-Making, *Science*, 337, 1176-1177

Robert Doubleday and James Wilsdon (2012) Science policy: Beyond the great and good, *Nature*, 485, 301-302