SPIRAL Briefs
SCIENCE POLICY INTERFACES: RESEARCH, ACTION & LEARNING

CRELE Choices: trade-offs in SPI design

The Brief in brief

This brief examines trade-offs among science-policy interface (SPI) design features. It describes difficult choices in terms of their impacts on credibility, relevance and legitimacy, and explains how trade-offs can be managed in different contexts. The brief is aimed at those developing and designing SPIs, as well actors evaluating or funding SPIs.

CRELE in SPIs

The idea of simple linear knowledge transfer from science to policy – 'truth' speaking to 'power' – is not adequate to explain the complex interactions in real SPIs. The effectiveness and impact of SPIs depends on the perceived credibility, relevance and legitimacy (CRELE) of knowledge and processes (these ideas are explored in the SPIRAL Brief on CRELE). Potential trade-offs between these attributes, and ways to manage them, examined below.

Four trade-offs summarised

Evidence from workshops and interviews revealed a number of trade-offs met in real biodiversity SPIs. Four of the most important are discussed below.

Personal Time trade-off

> In the old days it *[science-policy work]* was a negative, because it took time away from your work that you do here, but now it is actually an honour to be selected by an international community to do this. And that has been a big change. *Dr M., scientist*

Time spent on SPI work can enhance any dimension of CRELE, but taking time away from other roles may have immediate consequences. Longer term, impact on individual work could be positive or negative.

Clarity-Complexity trade-off

Strong and clear messages increase relevance but thorough communication of uncertainties and multiple perspectives increases credibility and legitimacy.

Speed-Quality trade-off

> We cannot wait for three years that you come up with your mid-term research study and peer reviewed papers - *Mrs P, policy maker*

Timely and rapid responses to policy needs enhance relevance, but time-consuming quality assessment and consensus building enhance credibility and legitimacy.

Push-Pull trade-off

Following policy demands strongly enhances short-term relevance while more supply-oriented research strategies enable identification of emerging issues and development of innovative solutions, maintaining CRELE in the long-term.

Managing trade-offs

The extent to which the trade-offs arise depends on the details of each case. It is important to understand what can be controlled or influenced in an SPI to mitigate trade-offs and maintain appropriate levels of CRELE.

Managing the Personal Time trade-off

There can be a lack of motivation for scientists and policy makers to take part in SPI work, if it is not recognised as important by hierarchies and does not help career development. Motivations for scientists and policy can be enhanced in various ways.

Find financial support for participation. This can remove important barriers including lack of budgets for travel and the need to fund working hours.

Match the spatial, temporal and administrative scales addressed by scientists to those considered important by policy makers. This helps ensure that knowledge is relevant, enhancing SPI impact and encouraging participation on all sides. For example there is policy demand for knowledge at watershed scales because of the Water Framework Directive: SPIs need to ensure that science meets this need.

Meet individual needs of participants. Scientists can be motivated by policy demand: interest from high-level decision makers, and having a practical impact on policy, can be highly satisfying. Policy makers can be motivated by learning opportunities and feeling close to the cutting edge of research in their policy areas.

Career recognition can overcome the trade-off. Promote and fund structures that recognise SPI work encourage participation and create a virtuous circle with peer-respect for strong SPI work. Scientists are increasingly stressing SPI work in their curriculum vitae. Policy leaders need to recognise that staff time in SPIs will pay long-term

dividends, e.g. SPIs can provide a warning mechanism for policy makers to understand emerging and important issues.

Managing the Clarity-Complexity trade-off

Where the clarity-complexity trade-off really exists, a difficult balance must be struck between short-term policy relevance and long-term credibility and legitimacy. But the trade-off can be less extreme than it is sometimes presented.

> The naïve view that policy makers can't deal with ambiguity, can't deal with fuzzy things is completely wrong! *Dr S – policy adviser*

The trade-off between simplification and communication of uncertainties is acute only where policy makers really do demand simplified messages. This is not always the case. Be aware that preferences can vary with the stage of policy cycle: at early stages, opening up uncertainties can be useful for all; towards the end of policy cycle, the need for definitive and simple advice increases.

Address milder forms of the trade-off through style and form of information. For example, giving numbers with confidence intervals may be appropriate for scientific publications but in policy work it can look cluttered and confusing and encourage focus on the central estimate. A graphical representation of the distribution of outputs may be more effective for communicating and may help ensure that the range of outcomes. Be innovative and explore ways of communicating that preserve information about uncertainties.

Managing the Speed-Quality trade-off

The main secret to easing the trade-off between timely advice and rigorous and time consuming quality assurance is forward planning.

Timely submissions of scientific advice can be assured by acknowledging the timetable of policy actions and planning accordingly. It is crucial to be aware of policy cycles of relevant policy actors: involve them in the work of the SPI.

Communicating policy deadlines to scientists and reviewers is important; it may also be necessary for someone to be responsible for chasing up between SPI meetings to ensure deadlines are met. Make sure all involved understand the consequences of delay.

Encourage informal interactions: policy makers need to know 'who to call' to get the latest advice, but ensure this advice comes with appropriate caveats. Feed these interactions in to the work and quality assessment programmes to keep future advice both relevant and credible.

Scan horizons, plan for flexibility, play a role in shaping the next generation of political questions. Put the SPI in the best position to provide timely and credible advice.

Managing the Push-Pull trade-off

At present, demand-led science is often seen as more important than curiosity-driven research. But policy demand and policy relevance are distinct issues.

A focus only on immediate policy demand neglects the role of SPIs as knowledge brokers for relevant emerging issues. Supply-led research may support a broad range of long-term relevance, including a chance of very high impact for some emerging issues. But demand-led research is important for short-term impact and keeping an SPI in the policy loop.

So the trade-off between supply and demand oriented science is a matter of balance. Specific conditions may alter the appropriate strategy in the short term, but a SPI seeking to maintain CRELE over the long haul needs a strategy that involves both forms of research.

To conclude, there is often a tendency to consider one option superior to others. But in fact the better option is usually context specific, and the appropriate balance can vary over time. Trade-offs are not static, but very dynamic in several ways. Some trade-offs may be fundamental (not resolvable in any circumstance), others are can be solved with additional resources, pose a problem only in some contexts, or evolve with changing contexts

Looking for more information on science-policy interfaces?

For more SPIRAL results, including separate briefs focussing on SPI attributes, or lessons learned from SPI processes, see companion SPIRAL briefs at http://www.spiral-project.eu/content/documents

This brief is a result of research and interactions within and around the SPIRAL project. This brief was written by Simo Sarkki (University of Oulu), Jari Niemelä (University of Helsinki), and Rob Tinch (Median).

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