SPIRAL Briefs
SCIENCE POLICY INTERFACES: RESEARCH, ACTION & LEARNING

Key features of effective SPIs

The Brief in brief

Science-policy interfaces (SPIs) take a wide range of forms and operate in complex political, legal and cultural environments. Understanding how to improve their performance requires thinking about general features of SPIs and how these relate to the effectiveness with which they achieve their goals in different contexts. This brief is aimed at those developing SPIs, as well actors assessing or funding SPIs.

Features of SPIs

'Science-policy interfaces' refers to a very diverse set of formal and informal institutions and processes through which scientists and other actors in the policy process work together to enrich decision making and/or research. Each individual SPI is a special case, but to think about SPIs generally we need simplifying frameworks that highlight factors important for all SPIs. Three such frameworks have proven useful in the SPIRAL project:

- Breaking SPIs down into key design and operational steps: the SPI goals, functions, structures, processes, outputs, and outcomes (see companion SPIRAL briefs "Designing for success: SPI structures"; "Goals and roles: SPI objectives and functions"; "Focus on Impact").
- Considering the Credibility, Relevance and Legitimacy (CRELE) of SPIs and their outputs (see companion SPIRAL brief on unpacking CRELE).
- Analysing the key features that can be used to describe and categorise SPIs.

This brief focuses on the third of these points. Considering key features, and relating them to SPI design and operational decisions, can help to explain how aspects of CRELE are determined and guide choices and trade-offs with the aim of improving the effectiveness of SPIs.

Improving the effectiveness of SPIs

Work in SPIRAL initially led to the identification of a large number of SPI features, which has subsequently been refined into a shorter list of the most important aspects. These are presented in the tables below, with some suggestions on how to assess them.

The **goals** of the SPI are central to understanding how and why it operates, why people participate, and play a strong role in setting the foundations of credibility, relevance and legitimacy. As in other categories, these features involve trade-offs, and different solutions are possible; but lack of clarity or agreement about goals and roles can be a source of serious problems for SPIs.

Goal Features	**What to assess**
Vision	Clarity, scope and transparency of the vision and objectives of SPI.
Drivers	Demand-pull from policy, mandates, supply-driven promotion of research, emerging issues.

The **structural features** of SPIs describe how they are set up and the constraints within which the processes are defined. Identifying structural strengths and weaknesses can be an important step in improving CRELE and SPI performance.

Structural Features	**What to assess**
Independence	Freedom from external control, neutrality or bias in position, range of membership.
Participation	Range of relevant expertise and interests included; competence of participants; openness to new participants.
Resources	Financial resources, human resources (e.g. leadership, champions, ambassadors, translators), networks, time.

The **processes** of SPIs define the way in which the key functions are actually carried out. This is the largest group of features describing several aspects of activities that SPIs typically need to undertake. Again, there are important trade-offs and SPIs need to decide how to allocate scarce resources across different activities.

Process Features	**What to assess**
Horizon scanning	Procedures to anticipate science, technology, policy and societal

	developments.
Continuity	Continuity of SPI work on the same issues; continuity of personnel; iterative processes.
Conflict management	Strategies such as third party facilitation; allowing sufficient time for compromise.
Trust building	Possibilities to participate in discussions, clear procedures, opportunities for informal discussions; transparency about processes and products.
Capacity building	Helping policy makers to understand science and scientists to understand policy makers; building capacities for further SPI work.
Adaptability	Responsiveness to changing contexts; flexibility to change.

The **outputs** of SPIs can be characterised by a set of features describing how they are prepared and presented.

Output Features	**What to assess**
Relevant outputs	Timely in respect to policy needs, accessible, comprehensive; efficient dissemination.
Quality assessment	Processes to ensure quality, comprehensiveness, transparency, robustness, and management of uncertainty.
Translation	Efforts to convey messages across different domains and individuals, and making the message relevant for various audiences.

Finally, we can also consider the ultimate **outcomes** associated with SPIs and the learning, behavioural and policy changes they foster. These are not fully within the control of the SPI and do not reflect direct design or operation choices in the way that the other features do. Nevertheless, it is useful to assess these outcomes and to bear in mind that they represent the 'bottom line' of SPI performance: balancing features and developing CRELE are just means to achieving the end of effective impacts on biodiversity and associated behaviours and policy.

Outcome Features	**What to assess**
Social learning	Do SPI participants, audiences, wider public learn and change their thinking about biodiversity?
Behavioural impact	Do SPI participants, audiences, wider public change behaviour as a result of learning?
Policy impact	Do SPI information, learning, and associated changes in policy-maker behaviour lead to changes in policy?
Biodiversity impact	Do the above changes lead to changes in drivers and pressures threatening biodiversity, societal responses and the state of biodiversity?

Trade-offs in features

SPIs have a crucial role to play in contributing to bringing about the necessary changes in awareness and behaviour if we are to face up to the pressing problems associated with biodiversity loss. SPIs must be fit for purpose, and able to reach their target audiences in timely and effective ways to maximise influence. This requires joint consideration of audiences, policy contexts, SPI features, and goal-oriented strategies that prioritise the impacts of SPIs.

However there is no 'one size fits all' solution: rather the full suite of features needs to be taken into account in a context-dependent way. Some features that help with some objectives and/or audiences may hinder others. Though it may seem natural to consider one option as generally superior to others, often the better choice is context specific, and the appropriate balance can vary over time.

Looking for more information on science-policy interfaces?

For more SPIRAL results, including separate briefs focussing on unpacking Credibility, Relevance and Legitimacy in SPIs, and managing trade-offs between SPI features, see companion SPIRAL briefs at http://www.spiral-project.eu/content/documents.

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Interfacing Biodiversity and Policy