SPIs under the Spotlight:
Ways to think about science-policy interfaces

The Brief in brief

This brief summarises the different dimensions and attributes of sciences-policy interfaces (SPIs) which have been used in the SPIRAL project to help understand and analyse SPIs.

SPIs and their contexts

Any science-policy interface, with a particular set of institutional arrangements and participants, exists in a wider environment of policy, media and other factors (Figure 1). The boundary between an SPI and its context is not fixed, and an SPI and its environment both influence each other and change over time.

Dimensions of an SPI

SPIRAL uses a series of dimensions to understand SPIs (see Figure 1). Four dimensions relate to the SPI itself: 'structures', 'objectives/functions', 'processes', and 'outputs'; and two dimensions relate to the wider societal arena in which the SPI is embedded: 'context' and 'impacts' (or 'effects').

SPIRAL also explores three cross-cutting attributes: credibility, relevance and legitimacy (CRELE). These are described in more detail in the SPIRAL companion briefs *'Keep it CRELE'* and *'CRELE Choices: trade-offs in SPI design'*. To capture the dynamic features of SPIs, we complemented CRELE with a fourth attribute, 'iterativity', which relates to the development and evolution of structures, objectives, processes, knowledge and relationships in continuous and repeating science-policy interactions. A companion SPIRAL brief on iterativity is under preparation.
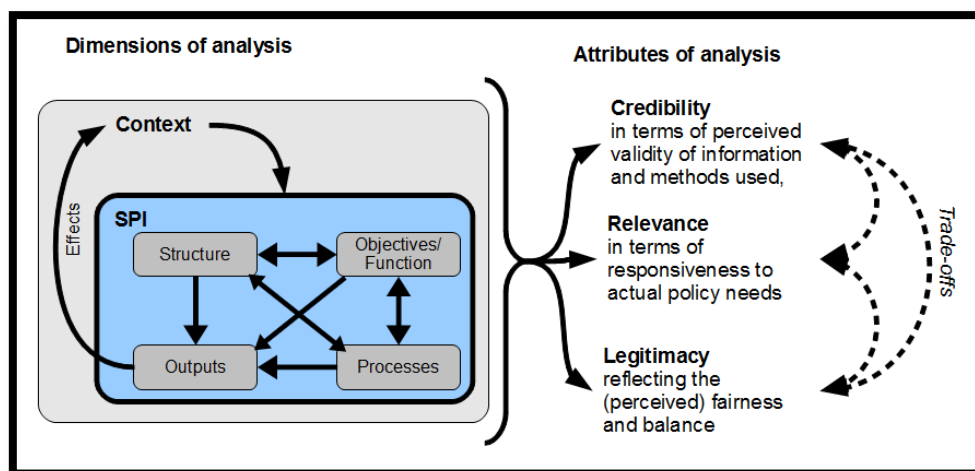
Figure 1: Illustration of dimensions and attributes of analysis

Structure of SPIs

By structure, we mean the institutional arrangements that have been set up and developed to achieve the objectives/functions of the SPI. A wide range of 'typical' SPI structures can be identified, ranging from very formal and institutionalised to informal and more flexible. They can operate at different political levels, and at different stages of the policy process (early warning, issue identification, policy design, implementation, assessment, review) and they can be closer to policy or to scientific processes.

For more information on structures, see companion SPIRAL brief 'Designing for success: SPI structures'.

Functions of SPIs

The objectives/function of an SPI are in part its stated aims, but can also include 'realised' functions that depart from the stated objectives. Less formal SPIs may not have any stated objective, but nonetheless fulfil important functions. Individual participants in a SPI may have expectations and goals for the SPI that differ from or even conflict with its stated function.

For more information on functions, see companion SPIRAL brief *'Goals and Roles: SPI objectives and functions'*.

Processes

An SPI will operate through a series of processes, within the framework of its function and structure. These will be more or less formally defined in procedural rules and guidelines for their work. Actual processes will rarely be fully codified, and may also deviate from the 'official' codified procedures. A companion SPIRAL brief on processes is under preparation.

Outputs

Outputs are the specific products that an SPI develops through its processes, in fulfilling its functions. These outputs can include various forms of reports and publications, organising or participating in assessments, meeting and various events, development of models, scenarios, indicators and other tools for use in biodiversity management and decision making, responses to requests for information, and so on.

Impacts / Effects

An SPI's processes and outputs lead to effects on the world outside – the 'context' (see below). The effects can be positive or negative, intended or unintended, direct or indirect, short term 'outcomes' and/or long-term 'impacts'.

The effects of an SPI are often difficult to measure or even to identify: usually they cannot be traced back to the work of an SPI only, but to a combination of the SPI and other activities and developments in the SPI's context. These may be complementary, aiding success, or may hinder or block SPI aspirations.

Analysing SPI effects is therefore difficult, but attention should be given to the coherence of outputs with the objectives of the SPI, how they are communicated to and taken up by policy makers and other actors, and how the outputs relate to other processes and actors, including those of other SPIs. Even where direct effects over a policy process of interest appear to be limited, there may be longer-term and/or indirect effects through changes in the understanding, outlook and behaviour of individuals and organisations influenced by an SPI. Iteration of processes and information can play an important role here: gradual accumulation of concordant information and messages can eventually lead to gradual or sudden change in behaviour. The processes at work are complex and the impacts may be unintended and unexpected.

Concrete effects will often be hard to measure, but even anecdotal information in this respect can be important in identifying reasons for success or failure, and in planning future actions.

For more information on effects, and how to plan for them, see the companion SPIRAL brief *'Focus on Impacts'*.

Context

The broader context or environment in which any science-policy interface operates includes, but is not limited to, the demand or supply drivers that led to its establishment. The context may have a strong influence on the function, structure and processes of the SPI, and is crucial in determining its impacts. Human and organisational values are an important part of context and will be quite different for different stakeholders and in different times and cultures. In European countries, the cultural context and understanding of science has increasingly come to involve strong expectations that publicly funded research should contribute as a public good to societal discussions, making establishment of and participation in SPIs quite "standard".

Other important features of an SPI's context include its accountability to the policy and science institutions in which it is embedded, the activities and disposition of other SPIs and key players in policy processes, the roles played by NGOs and other stakeholders, and so on. It is also important to remember that context and effectiveness are not static, but rather historical, depending on past science and policy processes, and influencing future opportunities. These different perceptions and features of an SPI's context will (or should) explicitly influence the design of structure, function, processes and outputs of the SPI, in order to fit the SPI to its context and enhance its prospects for achieving desirable effects

Looking for more information on science-policy interfaces?

For more SPIRAL results 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.

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Interfacing Biodiversity and Policy