

**Parallel Session 26: Interactions between science communication and
science policies**

**SCIENCE COMMUNICATION AT THE LOCAL LEVEL: AN
EVALUATION OF LOCAL AUTHORITY COMMUNICATION
STRATEGIES**

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Abstract: The authors have devised a theoretical model of the influence of complex science within the Local Air Quality Management consultation process in the UK. The model (Diagram 1) identifies key stages where the nature of the scientific information to be presented has an impact on the mode of presentation, the way in which stakeholders are included in the process, stakeholder interpretation of scientific information and incorporation of lay knowledges of the issues. The model can be used to enhance and identify the value-added parts of the consultation process, in relation to science communication.

Key words: Local environmental issues, consultation process, stakeholder involvement

Introduction:

In line with this trend toward engaging the public in science-based policy initiatives, UK local authorities have recently embarked on one of the largest science communication initiatives undertaken in the UK. As part of

the air quality management process local authorities are now required to consult with relevant stakeholders (Schedule 11, Environment Act, 1995) during the air quality management process. While the Environment Act itself specifies statutory stakeholders who must be consulted, UK local authorities are being encouraged to include a wide range of groups in the consultation and policy development process, such as residents, the Highways Agency and the Environment Agency (Defra and National Assembly for Wales, 2003, NSCA, 1999). The Local Air Quality Management consultation process has been used to develop a model of the role of the communication of complex science in the formulation of local environmental policy.

Dialectic approaches allow for a range of different consultation mechanisms to be conceived, including both consultative and participative oriented approaches. Consultation based approaches are routed in two-way communication about policy making, but stop short of involving stakeholders in policy formulation. Thus, policy formulation is still the sole domain of the local authority. Participative approaches, in contrast, are defined by the active involvement of all participants in the decision making process and arise from Habermas' theory of communicative action (Habermas, 1987; Palerm, 2000). Participative approaches incorporate local knowledge and may make the process more relevant to local stakeholders. In terms of involving 'lay' stakeholders, UK Government guidance recommends setting up participative workshops or forums to make stakeholders feel part of the consultation process (para 4.27, PG(03) (Defra and the National Assembly for Wales, 2003).

The Consultation Model

The model (Diagram 1) outlines the consultation and communication processes undertaken for air quality management. It can be used to explore the role of science communication in consultation about environmentally-oriented policy initiatives and identify those aspects of the process which offer added value to either the local authorities or the consultees. The model takes into account four key aspects of the consultation process where the nature of the complex scientific information to be presented has an impact on the process:

- Mode of presentation
- Stakeholder inclusion
- Stakeholder interpretation of scientific information
- Incorporation of lay knowledges

The way the technical information is included in the consultation process may disadvantage non-expert stakeholders (Irwin, 1995). Thus, the model focuses on the development of science communication messages and their interpretation by stakeholders. In the case of the Air Quality Management Process, this involves communication of the complex science involved in

measuring air quality and incorporation of data from air quality models. Thus, judgments must be made by local authorities about stakeholders' levels of expertise and ability to interpret scientifically complex information.

It is likely that local authority views of different groups will inform the extent to which informative, consultative and participative approaches are used during the consultation process. Thus, the model can be used to understand how lay knowledge is included in the consultation process and to test the extent to which such 'lay' knowledge is valued and included during policy formulation. This allows clusters of approaches to be identified that capture both the approach taken to science communication and the nature of the stakeholders involved.

Stakeholder involvement in the process can be further evaluated by investigating how the input was incorporated into policy. Choice of consultation method provides an initial distinction between informative/consultative and participative approaches. This can be further investigated by determining the extent to which stakeholder input via informative and consultative approaches was incorporated into policy.

Conclusion

The model presented of the way that complex science is incorporated in the policy making process provides a basis from which to evaluate the consultation process. This can be used to develop and evaluate clusters of approaches with a view to identifying those aspects of the process which offer added value (both to the local authorities and to consultees). Although developed specifically for the UK Air Quality Management process, the model is applicable to a range of locally based environmental policy issues.

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