The Social Amplification of Risk
R&D Technical Summary E2-023/TS

A large proportion of the work of the Agency involves a focus on risk perception and risk communication. Frequently, staff will be involved in communicating about the risks associated with operational work or responding to concerns about a particular issue which may have been raised in the news or by local communities. Sometimes, there will be a discrepancy between the risks perceived by experts and the way in which risks are reported and perceived by lay people.

In addition, experience has shown that public perception and aspirations are of equal if not greater importance in risk assessment than the scientific and technical information upon which the Agency has traditionally relied. There is therefore a requirement to understand how social issues amplify or attenuate the feeling of risk or harm. The Agency was asked, as part of its role on the Interdepartmental Liaision Group on Risk Assessment to contribute to a research programme on the social amplification of risk alongside DETR and MAFF (now DEFRA), HSE, DoH and ESRC.

The programme had three main aims:
- To investigate why some risks become "amplified" in the media, and in public debate and why some risks become attenuated. An example of the former might be BSE and of the latter might be radon.
- To understand how risks are made sense of by lay people, how they are represented in the media and how that is understood,
- To come up with recommendations for policy makers on what factors might influence whether a risk becomes high profile or not

Three research projects were commissioned to investigate these aims. These were:

The implications of Social Amplification of Risk for Risk Communication
University of Surrey
Glynis Breakwell, Julie Barnett, Ray Kemp, and Ragnar Loftsedt tested the applicability of the Social Amplification of Risk Framework (SARF) to the UK and its application to risk communication. Specifically they sought to identify factors most likely to lead to amplification or attenuation of perceptions of risks to health and safety, including the influence of UK media institutions. The research also set out to draw out lessons for best practice in risk communication.

Social Amplification of Risk: The Media and the Public
Judith Petts (University of Birmingham), Tom Horlick Jones (University of Surrey now Cardiff University), Graham Murdock (Loughborough University) with Diana Hargreaves (University of Surrey), Shelly McLachlan (Loughborough University), and Ragnar Lofstedt (University of Surrey)
This team tested the relevance or applicability to the UK of the SARF; identified and analysed factors most likely to lead to amplification or attenuation of perceptions of risk to health and safety, including the influence of UK media; and drew out lessons and implications for best practice to generate proposals on how the research findings can be incorporated into principles for good risk communication

Quantifying Risk Amplification Processes: A Multi-level Approach
Queen's University, Belfast

Noel Sheehy Judith Wylie and Gary McKeown examined media coverage of risk-related stories using three complementary approaches. The first was a low-level analysis of words used by the media. The second adopted a higher level of analysis, focussing on the writing styles of journalists who made significant contributions to particular stories. The third used an experimental simulation to examine some of the key ingredients of stories that captured the public mood. The research was able to contrast the coverage in Britain, Northern Ireland and the Republic of Ireland. The studies bring out changes in language used by the media in qualitative, emotional and rationality terms as stories build, peak and decline.

The researchers used a mixture of interviews, questionnaires and secondary data analysis to investigate the issues. Key findings included the following:

- Layering various data sets for a particular risk issue, such as societal and psychological on top of each other, over the same time-frame, allows a more holistic view of the development of a risk story and enables identification of the critical point triggers in the life-cycle of a risk issue. Such critical points identify any significant changes in the perception of a risk issue. Examples of critical point triggers were: the Department of Health announcement on the potential for the contraceptive pill to cause thrombosis; and the MAFF announcement of the link between BSE and CJD.

- Three factors are instrumental in creating triggers. All three need to operate to create a trigger. They are:

    i. impact of an event or issue on the self-interest of a large number of people: the closer to home a risk issue impacts, the greater the intensity of public reaction;

    ii. the capacity to create moral outrage, ie assignation of blame; and

    iii. the capacity to generate an emotional response, eg fear.

- The following factors are common critical point triggers:

- hazard notification; changes in, or new, technology; extraneous events; skilled interventions, eg new interpretations of issues by new people in a position of influence; and changes in power relations.

- In order to deal with a hazard event, particularly those relating to new technology, humans 'normalise' the threat posed by comparing it to their previous experience and ideas. The media rapidly responds to a risk story by immediately framing the current issue with a template learnt from similar, previously learnt examples. There is evidence of external learning (among the "public") but often little institutional learning, therefore regulators will always lag behind the course of events. Many large companies invest in public relations officers to engage actively with the media

and manage their reputations proactively, rather than the reactive approaches of many government Departments.

- Within the life cycle of a hazard stakeholders can influence what is focused on. Findings suggest that many sub-hazards are focused on issues which regulators may not regard as central to the issue but if ignored these issues can become problematic and time consuming to manage. Departments need to be aware of, and equip themselves for, dealing with sub-hazard issues to enable them to allay public fears about the main hazard issue. Such interventions by Departments are intrinsic to the good media/public relations management of a risk story. Regulators need to be attuned to analysing media and public response to risk/hazard to enable them to predict what could happen if a similar situation occurs again.

- People do not just "absorb" information from the media, rather they interact with it, are critical of it, and have sophisticated arguments about it.

- An unexpected finding was that Trevor Macdonald was regarded as an extremely trustworthy communicator of information.

- The media is only one place where people get their information about risk from, and work should be done to understand in more detail where people do get their environmental risk information from and who is trusted.

- Institutions have not yet fully utilised the process of deliberately communicating risk messages to the public;

- Organisations need to improve their understanding of what maintains social trust in institutions;

- The ripple effects (economic, environmental etc) that may occur after a major failure, resulting in public mistrust in institutions and potential social amplification factors can, and should, be incorporated in formal risk assessments

- Employing user-friendly counter-stories and scientific evidence in a contextually plausible way can establish and maintain public trust, although counter-stories are ineffective against strongly held beliefs;

- There is a lack of research into understanding how minority groups in the UK might perceive risk issues;

These findings have been disseminated internally through Focus articles and two workshops, one of which is published as R&D Technical report P5-040/TR1 - Understanding Public Perception of Risk: Report of an Environment Agency Workshop (2001). In addition, the HSE is producing a guide for risk communicators based on this work.

Further, an international workshop was organised by Prof Nick Pidgeon at the University of East Anglia, drawing together the originators of the Social Amplification of Risk Framework and other key international figures from Europe and North America working in the areas of risk communication and amplification theory. The workshop was held in Windsor, September 1999. A book is being published

with all the papers from the workshop and should be available late 2002/2003.

The information from these projects is very pertinent to a wide range of Agency activities and it should be regarded as a starting point for any work on risk perception and communication. It is hoped that this summary raises a number of important questions relating to our risk communication practices. There are a number of issues that arise from this work that will be taken forward in subsequent research projects (contact Paula Orr for details). In addition it is hoped that this technical summary will encourage staff to reflect on the ways in which they currently communicate on risk. Further workshops would be useful for the information to be fully disseminated.

This R&D Technical Summary relates to information from R&D Project E2-023 reported in detail in the following output:-

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