

Theme 2 Workshop 4

Scientists as communicators within society

Fluoridation in Ireland: are policy makers ready to listen to lay experts?

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Participatory techniques such as workshops, citizen juries and consensus conferences have become popular in many countries over the past few years as a way of consulting the public in policy making involving science. Such techniques do not aim to undermine the importance of the scientific expert or policy maker, but to improve public involvement and increase public awareness, and to include the broader social and moral issues into policy making. However for these public participatory initiatives to be legitimate they must have clear connections to the policy decision-making process.

The case study of water fluoridation in Ireland in this paper is used to explore Irish policy culture and its willingness to incorporate public issues in science into the policy process. Ireland is the only EU country that has a compulsory fluoridation scheme and is currently reviewing its forty-year-old Health Act of fluoridating public piped water supplies. The recent controversy was sparked by an upgrade of a region's water scheme that now requires the water to be fluoridated. This event instigated a campaign against water fluoridation, arguing that fluoride in drinking water causes osteoporosis, bone cancer, genetic defects and other serious side effects; as well as the moral issue of people not having the right to choose what is in their drinking water.

In February 2000 the Department of Health and Children, responsible for water fluoridation, contacted the School of Communication, Dublin City University, known to research public communication of issues surrounding the genetically modified food debate. The Chief Dental Officer requested advice on how to communicate the issues of fluoridation to the wider public with the aim of minimising public controversy.

It was suggested to the Department of Health and Children that their communication strategy allows for: dialogue and two-way communication with the public; the gathering of public opinions and understandings of fluoridation; and the incorporation of this information in the review of the Health Act. This paper investigates the Department of Health and Children's response to a call for greater public consultation in the policy making process of fluoridation.

Scientists as communicators

Since the formal launch of the Public Understanding of Science movement in the UK 15 years ago there has been a great increase in activities to improve the communication abilities of scientists. Media training workshops, presentation skills and popular writing courses are aimed at scientists to improve their ability to communicate with society. For example how to be better understood by journalists, school children, lay public, politicians, television audiences or environmentalists. There are numerous arguments as to why a scientist should communicate to increase the 'public's' understanding of science such as practical, cultural and economic reasons. These types of courses and workshops are addressing the communication process as one-way. There is more to communication than a scientist informing society about their work, although important to do. Communication should be a two-way communication process. Communication is the interaction through messages – the exchange of messages – namely it is not just the sending of information (John Fiske, 1990).

Although this paper is addressing the policy decision-making process, scientists have a fundamental role to play in: i) informing the process itself and ii) defining how the issue is thought to be. Scientists, and those they advise, need to be recognise that there:

1. are other voices in society with different, yet legitimate, points of view
2. are a range of experts, and they are but one, scientific experts
3. is a need for communication processes that foster communication exchange

In communication studies there are two schools of thought: i) the process of communication – the acts of communication in which messages are transmitted, and ii) semiotics – the works of communications, how messages produce meanings.

The school of semiotics argues that to minimise the divergence of meanings we should not improve the efficiency of the communication process, but minimise the social differences of those communicating. In a conflict where there are cultural, moral and social differences, those involved in the communication need to recognise the differences before involving themselves in better communication. However for people to become aware of different views better communication processes are necessary to enable dialogue and exchange of information.

Why would scientists, as well as interest groups, industry and consumer representatives want to be involved in more meaningful communication? What are the benefits for adversaries to communicate? The recent example of the GM food debate offers an answer. While policy makers try to resolve the issue there has been an informal moratorium on the planting of commercial GM crops in the EU. If citizen groups want social and moral issues placed on the 'official agenda' then they too must communicate. For example the labelling of GM food would not have occurred in the EU if it were not for the campaigning of such groups.

The Policy Review of Water Fluoridation in Ireland

Ireland is currently reviewing its forty-year-old Health Act of fluoridating public piped water supplies. In 1999 a northwest region's water scheme was upgraded to a level that now requires the water to be fluoridated. This event instigated a local political campaign against water fluoridation. A national campaign group was formed, arguing that fluoride in drinking water causes osteoporosis, bone cancer, genetic defects and other serious side effects; as well as the moral issue of people not having the right to choose what is in their drinking water.

In February 2000 the Chief Dental Officer of the Department of Health and Children, responsible for water fluoridation, contacted my supervisor in the School of Communications, Dublin City University, for advice on how to handle communicating a (potentially) controversial issue. After several meetings with the Department of Health and Children and the Dental Health Foundation (funded by the Department) it was suggested that I write a proposal to the Department on ways this issue could be communicated. The public servants participating in the meetings seemed to be very interested in the suggested communication strategies that allow for: dialogue and two-way communication with various public groups.

The communication strategy had three components: to gather the awareness of the wider public; to provide dialogue with groups interested in water fluoridation, such as the anti-fluoridation campaign, consumer groups, industry and oral health workers; and increase public participation in the review of the Health (fluoridation) Act.

After some deliberation we were given the go ahead to conduct initial research, consisting of focus groups and surveys, to determine the general public's attitudes, opinions and awareness of water fluoridation. At this stage it appeared that the Department and the Dental Health Foundation were very interested in the idea of dialogue and greater public participation.

The Forum

During this process of establishing ways to involve the public the Minister announced an 'expert forum' to provide him advice on water fluoridation. The vast majority of the members of the 'forum' are scientists from the dental and health areas. However there are members representing anti-poverty, environmental and ethical movements. The way in which the 'environmental' members were chosen was controversial within the environmental and anti-fluoride campaign. Those members chosen were not asked in the same way as the other members, and the groups were given no opportunity to nominate their representative. At the time of the announcement not all members of the forum had been decided. It appeared to be a rushed Ministerial decision. On questioning the reasons behind the sudden announcement I was told 'this was a way to balance the negative media coverage of the past few weeks'.

When I asked how, if at all, this 'forum' fitted in with the public participation proposal currently being discussed, the answer indicated that such strategies could fit around the 'expert forum'. The Department has announced that the public consultation, advertised in national newspapers, is in the form of written submissions to the forum. Any decisions about increasing public participation are on hold awaiting the initial outcome of the 'forum'.

The forum invited myself and my colleague to make a formal presentation on the

results of the focus group and survey research, and the communication strategy promoting increased public participation in policy making. My colleague attended the meeting alone as unfortunately I could not attend. Another researcher in this area also presented that day on scientific uncertainty and the communication of risk. After the presentation I spoke with three people present for both presentations. My colleague stated that 'the forum want to address the scientific issues before thinking about public participation'. The second presenter had stronger views: 'My overall impression was that the forum was adopting the 'good old boys sat around the table' mode of deliberation and that public engagement was not high on the agenda and was, perhaps, being regarded as simply an appendage to all important decision-making by the 'experts'.

Public Participation Initiatives

It may seem unusual to suggest to policy makers to invite lay members of the public—non-scientists—to advise them on policy where science is centrally involved; yet increasingly there are more examples where the traditional method of technology assessment (TA) have been inadequate. In light of recent controversies, such as BSE, storage of nuclear wastes and genetically modified foods, that have shaken public confidence in the ability of decision-makers, there is a call for greater democratic, transparent and participatory policy processes.

A recent European research collaboration, EUOpTA (European Participatory Technology Assessment), concluded that traditional TA has certain limitations "regarding social functions and credibility in comparison with participatory TA" (Lars Klüver et al., 2000). The study promoted the use of participatory methods where there is a "need for social learning, critical (public) discourse and/or mediation" (Lars Klüver et al., 2000). The Rathenau Institute for Technology Assessment, the Netherlands, is increasingly evolving towards more public participatory methods. The institute's director stated that "a direct role [of lay people] in the decision-making is not what is essential...[but w]hat is important is to widen the debate, to take citizens' perspectives into account and to inform experts of the questions uninitiated people are asking and the reasons that lie behind them" (European Commission, 2000). The Danish Board of Technology have adopted public participatory methods to embrace the wisdom, experience and visions of its citizens and experts (Lars Klüver, 1995). The Danish Board of Technology was established in 1985 and is continually looking at ways to improve its methods (Simon Joss, 1998; Lars Klüver, 1995).

The interest in public participatory methods taken by policy institutions, particularly in countries that do not have the tradition of participatory methods, is partially due to the sense of growing levels of public mistrust in science regulation. The UK House of Lords 'Science and Society' report identified a "crisis of confidence" in science and stated that "[p]olicy-makers will find it hard to win public support on any issue with a science component, unless the public's attitudes and values are recognised, respected and weighed along with the scientific and other factors" (UK House of Lords, 2000).

The different public participatory methods have different goals, some more achievable than others, including: increasing public awareness, decreasing public concerns, evaluating public attitudes and values, presenting alternative paths, resolving conflict, increasing democratic rights, influencing policy, widening how an issue is framed and restoring trust (Lars Klüver et al., 2000; Simon Joss, 1998; Josee van Eijndhoven,

2000).

Individual public participatory methods alone will not broaden policy discussions and decisions – there must be a cultural change made by policy institutions. There are two assumptions that Brian Wynne has highlighted about public participation in science initiatives used by scientific and science-led policy intuitions. The first assumption is that the nature of ‘public participation in science’ initiatives presume how public issues are framed. Wynne, supportive of the move towards more public participation initiatives, argues that similar to the early British movement of Public Understanding of Science, that is criticised for its deficit model approach, the ‘public participation in science’ methods can systematically frame public issues as scientific. Issues that have a scientific content could also be framed as an economic, ethical, social or environmental issue. Wynne stated that having science define what the issue is thought to be is fundamentally problematic (Brian Wynne, 2000).

The second assumption is that merely formalising the process will not spontaneously make policy makers listen to and understand public concerns and values. Informal approaches, such as media and legal campaigns, direct actions and lobbying, are frequently used to inform policy-making processes. Traditionally these approaches have not been welcomed by policy institutions. The institutions who are implementing the public participatory exercises must be ready to listen. Wynne suggests that sometimes such initiatives are “accompanied by the unstated and maybe unconscious belief that these public inputs are still intellectually vacuous and irrelevant”.

Policy-makers and scientists must accept public participation initiatives as legitimate contributions to the policy process, and not just an exercise to allow citizens to have their say or ‘blow-off steam’. The contributions made by lay citizens must be recognised not as a substitute for scientific or technical information, but as components to be considered along side scientific advice. As the British House of Lords ‘Science and Society’ report clearly stated that although “these [public participatory] approaches have value...they are isolated events, and no substitute for genuine changes in the cultures and constitutions of key decision-making institutions” (UK House of Lords, 2000).

Public participatory mechanisms should not be undertaken as a way to increase public confidence in regulation – although this may be an outcome of the decisions taken. Just because public policy bodies start to implement public participation initiatives, they will not automatically be trusted. Trust can only be earned, hopefully by the outcomes of the process.

There are two dimensions to the ‘public’ in public participatory initiatives. The ‘public’ can include lay people with no interest in the issue other than as citizens, and groups that have a specific interest in the issues, such as environmental organisations and patient care groups.

The involvement of members of the wider public provides them with an opportunity to voice their beliefs and values, such as the social and moral issues arising from the application of science and technology. Results of public participatory initiatives in the 1990s have shown that the public are capable of discussing such complex issues involving science – not at a scientific level of understanding but as members of society (Georg Hörning, 1999; Ian Barns et al., 2000; Gregor Dürrenberger, et al., 1999). These public opinions are not to displace scientific evidence but be considered along side scientific evidence and other factors, such as economic considerations.

The second dimension involves drawing on a wider basis of experience or what has been referred to as specialist lay knowledge (Alan Irwin, 1995) or expert-stakeholder knowledge (Klüver et al., 2000). Irwin argues that local lay knowledge can offer practical experience and a different perspective other than that of science expertise. Irwin's example of 2,4,5-T pesticide highlights the different perspectives of scientific experts and lay experts—the farmers. Irwin questions why citizens with high understandings and personal experience are excluded from decision-making.

Workshops conducted on behalf of Dental Health Foundation

The aims of the initial research with members of the wider public were to:

- determine the awareness of and behaviour towards fluoride in water and toothpastes and its relationship with dental health
- explore credible sources of information.

Nine focus group discussions were conducted between 6-12 July 2000 in Dublin, Kilkenny and Galway. The groups contained a mix of people categorised by frequency of dental visits, brushing of teeth, presence of own teeth or dentures, and social groupings, gender and ages.

When respondents were asked to write down their immediate reactions and associations to the word fluoride the majority made an instant connection between fluoride and toothpaste. Many of the respondents deduced that fluoride provides some sort of dental protection. There was also a spontaneous association of fluoride and water, especially in the older groups. On prompting they remembered it had something to do with teeth.

'I think I remember legislation about it in the 60s.'

The majority of people assumed there was a benefit in having fluoride in the water but had difficulty providing evidence as to why they thought this. Most believed that the primary benefit of fluoride was its cleansing and purifying properties. The dental protective properties were not as readily linked to fluoride.

'If they plan to take fluoride out of the water my concern is what are they going to put in its place to protect us against pollutants and disease.'

'Is it a bleaching agent?'

The level of interest and concern about fluoridation is low. Many groups admitted to never discussing the issues with friends. A small minority recalled media exposure about the potential carcinogenic links and lead poisoning.

'No one knows anything about fluoride so they can't say it is high on their priorities.'

The awareness of the recent fluoridation 'debate' varied significantly amongst respondents. Even those that were aware of the media exposure remained poorly informed about the for and against arguments. The participants welcomed information and debate (on any issues), recognising that this was indicative of an attitudinal shift in Irish society, and the recent Government tribunals.

'Well I do think we were much more trusting in those days, that we certainly believed that everyone was out for our good. I think it has been proved now, like, that we should have questioned a lot more things, you know, and maybe that is why somebody has questioned the fluoride and why it is there.'

'I do not know enough about it. Maybe we should know more about it.'

'I think an open discussion is very important.'

'They would have to sell it to us, show that it is worthwhile. Not only for your teeth, but for your health as well.'

When the participants were asked who they thought would be the most credible source of information the issues of independent and objective opinions was raised. Government Departments, Local Authorities and the Dental Health Foundation were thought to be reputable but it was felt that their underlying agendas should be questioned.

'I feel the Department of Health might be reluctant to tell you all the potential negatives of fluoride because it could open a can of worms.'

'The Dental Health Foundation are likely to focus on the benefits of fluoride to our teeth but maybe at the expense of its harmful effect on general health. I would like a more objective viewpoint.'

'The Department of Health is possibly influenced by pharmaceutical companies.'

'[The Department of Health] covered up about blood transfusions and all the rest of it. They would tell you what they think you want to hear.'

'You want someone who is independent, who has no axe to grind.'

The participants were given the opportunity to ask questions, examples listed below, that they would like answered that might help them inform an opinion.

- What are the supposed benefits and what is the evidence?
- What are the negative impacts of fluoride and what evidence is there to support these claims?
- What is the current fluoride level in the Irish water supply and how does this compare to our European neighbours?
- Have any studies looked at the potential dangers of long-term fluoride consumption?
- Is there a viable alternative to fluoride?
- Why have other countries chosen to take fluoride out of their water, and what has been the result?
- Is fluoride naturally present or has it been artificially added?
- How much fluoride is acceptable for one to be exposed to per day, considering the combination of water and toothpaste?
- How frequently is it monitored?
- How does fluoride interact with other chemicals in the water supply?
- Why are they now saying that too much is bad for you?

There were many other questions. The ones listed above give an indication that the

participants, members of the general public with no former interest in water fluoridation, were very capable of asking intelligent and pertinent questions. This evidence was presented to the experts of the 'forum' to support the view that the public members have worthwhile contributions to make in the review of the Health (fluoridation) Act. Are Irish policy makers ready to listen to lay experts? The initial interest shown by the Department in involving public groups in the policy process was positive. However the decision of the amount of public involvement is now dependent on a group of scientific experts.

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