

European Public Participation as Risk Governance: Enhancing democratic accountability?

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Abstract

Government decision-making on techno-scientific issues has encountered public suspicion and legitimacy problems. These have arisen from the unaccountability of representative democracy, especially when governments promote specific technologies as if they were objective imperatives. Given such conflicts around innovation and regulation, public participation has recently gained mainstream support in Europe. This support coincides with a shift in problem-diagnoses: public suspicion was previously attributed to deficits in public rationality or knowledge, while more recent diagnoses emphasise deficits in institutional procedures and frameworks. Recognising these difficulties, proposals for 'risk governance' aim to make institutions more trustworthy, make decisions more publicly accountable and accommodate conflicting goals.

This European strategy for 'risk governance' provides a heuristic device for analysing conflicts around public participation. Any participatory design structures or simulates the societal conflicts to be managed; tensions arise over how to construct 'the public' that participates. In some cases, participation has evaluated and reinforced regulatory changes which enhance the public accountability of 'risk' judgements. Participants have also sought to open up the implicit political basis of technological decisions, especially vis à vis alternative futures, but this effort has proven difficult. If only by default, participatory procedures readily substitute for a greater public accountability of representative democracy for such choices. Pervasive tensions arise between discussing a 'common' problem and containing conflicts around the problem-definition.

1 Introduction

Public participation in technoscientific issues has recently gained support in Europe, in response to greater conflict around innovation and regulation of controversial technologies. What is the role of such exercises? We often hear familiar criticisms, e.g. that participants were not representative of the public, or that the government did not make a prior commitment to follow the outcome. Those criticisms may be descriptively accurate but imply particular benchmarks, even simplistic models of democracy. Together they imply that participants truly representing the public could guide government decisions – as if the government had no agenda of its own, nor a wider accountability to representative democracy.

Clearer questions are needed to investigate the role of public participation in its various forms. This paper discusses the following analytical questions:
What has been the impetus for European public participation in techno-scientific issues?

As a remedy for what problems? How have those problems been diagnosed? What participatory strategies have been developed? How does/can public participation enhance the accountability of representative democracy – or perhaps substitute for such accountability?

2 EU legitimacy problems and governance remedies

In the European Union, 'governance' has become a mainstream policy term since the late 1990s. This concept intersected with general debate about a 'democratic deficit': according to many critics, EU policymaking hid the role of national governments and favoured influence by industry. In response, the Commission's White Paper on European Governance set out principles of 'good governance', e.g. more openness and participation throughout all stages of the policy process (CEC, 2001a). The report formalised discussion on how to improve stakeholder relations for policymaking.

Perhaps as a special case of a governance problem, risk regulation underwent a legitimacy crisis, especially following various public scandals over food and medical safety. As a widespread criticism, politicians often used expert advice to avoid full responsibility for decisions. The White Paper discretely acknowledged this problem:

It is often unclear who is actually deciding – experts or those with political authority. At the same time, a better-informed public increasingly questions the content and independence of the expert advice that is given (CEC, 2001a: 19).

Consequently, 'Science and Governance' was given special prominence as a legitimacy problem for government. As these discussions recognized, official expertise often underwent challenge and so could not straightforwardly legitimize policy decisions. Experts are contradicted by 'counter-experts':

While being increasingly relied upon, however, expertise is also increasingly contested... 'Traditional' science is confronted with the ethical, environmental, health, economic and social implications of its technological applications. Scientific expertise must therefore interact and at times conflict with other types of expertise... (Liberatore, 2001: 6).

As a way forward, there were proposals to 'democratise expertise' – as in the title of the above report.

In a similar way, legitimacy problems have been attributed to governmental over-dependence upon science, or perhaps its discursive equation with official expertise. In a broad historical perspective, 'At stake here is the Enlightenment project, where objective science and representative democracy are combined to provide a new legitimation of the State', argue De Marchi and Ravetz (1999: 754). From the controversial cases of the BSE crisis and a GM maize product in the 1990s, they diagnose difficulties of governing potential hazards. Even speculative hazards could undermine public trust in risk regulation. 'Here it is the uncertainties which dominate, and which require the reference to explicit values' (ibid: 755).

One governance measure, wider public participation, has been advocated as an 'extended peer review' of official expert judgements. However, NGO involvement requires a somewhat 'self-contradictory balance between their functions as critics and as stakeholders' (ibid: 756). Perhaps 'balance' is a misnomer, especially for tensions between challenging policy assumptions versus finding common ground within the policy system.

Public participation has been seen as a possible remedy for quite different problems. Given widespread public suspicion towards some new technologies and

safety claims, the problem was initially diagnosed as public irrationality or ignorance. By the late 1990s a prevalent diagnosis was 'public distrust', attributed to various deficits – e.g. of risk communication about technologies, or of transparency about regulatory criteria and procedures.

The need to gain or restore trust has served as a general argument for diverse remedies – to educate the public, to make advisory expertise more 'independent', and even to make institutions more trustworthy. The latter remedies have included greater transparency, broader expertise, consultation and even participation, sometimes called 'governance'. With this shift in deficit models, later diagnoses and remedies supplemented earlier ones, rather than simply replace them (Levidow and Marris, 2001).

Thus different deficit models remain in competition. In parallel with 'governance' remedies, expert-regulatory institutions still regard public attitudes as the problem and an obstacle to technology progress. New practices encompass old assumptions. Participation is often still designed to address 'risk' perceptions; it aims to achieve trust and social consensus through engagement, while demonstrating objectivity through openness and transparency (Irwin, 2006).

Such processes tend to reify both 'risk' and 'citizens'. In efforts at participation, 'risk' is reified twice: by defining the universal public meaning of technological controversy as 'risk' issues; and by selecting particular 'risk' definitions as natural, objective and universal. Citizens are modelled according to specific 'risk' issues and definitions, while excluding others. Some participatory processes frame issues and model citizens accordingly, in ways which are not democratically accountable (Wynne, 2005).

Those difficulties and limitations have been recognised by a European network of researcher-practitioners. The Trustnet project brought together individuals from industry and government to create more deliberative, participatory solutions. According to its diagnosis of past problems, the prevalent Top-Down approaches had reinforced adversarial processes, often focusing on risk acceptability. When there is no broadly accepted social justification of a hazardous technology, e.g. for its general benefits, public concerns focus upon 'unacceptable risk'. Moreover, official emphasis on 'science' has led critics to promote their own experts for advocacy science: 'Stakeholder relations degenerate into public conflicts and endless scientific controversies'. As a remedy, therefore, 'New patterns of risk governance are needed to provide legitimacy and promote trust', argued its report (Trustnet Secretariat, 2000).

Towards such an approach, risk governance should involve stakeholders in defining issues. The Trustnet project carried out the task 'to re-interpret collectively the specific stakes and concerns expressed by each category of participant in order to build common goals tolerable [acceptable] for the participants as a whole'. Stakeholder involvement makes explicit the conflicting goals, scientific uncertainties and expert judgements involved in decisions. In the Mutual Trust paradigm, participants attempt to reach a common understanding of such issues. Such efforts could answer the question, 'Why should society take a controlled risk?' Stakeholders are involved in 'authenticating or rebuilding the common values which nurture social trust and social cohesion' (Dubreuil et al., 2002: 91-92).

In all those ways, 'risk governance' attributes deficits to institutional procedures, not simply to public attitudes. According to this perspective, narrow issue-framings generate societal conflicts and government dilemmas (see Table 1). Towards a

remedy, governance would need to address the fundamental sources of conflict. Let us next survey perspectives on those sources and possible remedies.

Table 1: Problem-diagnoses and governance roles

problem	public capacities or views	expert-regulatory practices	systemic legitimacy
mid-1990s diagnoses more recent diagnoses	deficits in... rationality or capacity for rational discussion scientific knowledge trust in science and (official) expertise trust in regulation and government	deficits in... expert communication of real risk, based on sound science expert independence and objectivity plural, diverse expertise transparency about uncertainty and expert judgements	deficits in... risk acceptance (e.g. due to demands for absolute safety) social justification of a hazardous technology framework to encompass or reconcile specific stakes and interests social cohesion grounded in common values and problems
dilemma for government	By simply seeking or expecting public trust, government intensifies sources of distrust	By invoking 'sound science', govt encourages adversarial disputes among experts, even attacks on their integrity	By presuming societal need for a technology, government intensifies arguments over risk acceptability
governance: ideal role	Make the regulatory process more open and trustworthy for the public	Make decisions more accountable for their basis in science, uncertainty & policy (non-scientific aspects)	Develop participation to accommodate conflicting goals and to build common values

Note: The above Table elaborates critical perspectives in Levidow and Marris (2001) by drawing on concepts in Dubreuil et al. (2002) and Trustnet Secretariat (2000)

3 Neoliberal context of governance strategies: which common problems?

New technologies often embody contentious assumptions about the problems to be solved. Since the 1980s technological innovation has been driven increasingly by commercial pressures. Public-sector institutes have been made more dependent upon profit motives and private finance, thus blurring the distinction between private and public interests. In European agri-food research, R&D priorities have shifted towards knowledge for profitable commodities, royalties on patents, etc. This shift has undermined the capacity to serve the public good, as regards both innovation and expertise advice (Levidow et al., 2002).

Such warnings came from leading members of EU-level scientific committees (James et al., 1999). When appointing scientific advisory committees, governments have encountered greater difficulty in recruiting members

independent of private interests, in at least two senses. First, even if scientists are not employed by industry, their careers and institutes are often dependent upon industry contracts. Second, their individual standing depends upon gaining such contracts through competitive tenders, conducting prestigious research, publishing high-quality papers, etc. Consequently, few are willing to serve on advisory committees. Given these pressures, 'it will prove increasingly difficult to recruit top-flight scientists', and members tend 'to consider themselves operating in a consultancy mode', therefore requiring substantial remuneration (ibid: 66).

Moreover, EU innovation policies have invoked market-technological imperatives for specific technological trajectories. Since the early 1990s, the European Commission has favoured infotech and agbiotech as essential means to enhance efficiency and thus create wealth, even to ensure economic survival. In its 1993 White Paper on 'Growth, Competitiveness, Employment', the Commission characterised the entire agri-food industry as 'dependent' upon genetic modification techniques. Such language foreclosed options about alternative trajectories. Under 'risk-based regulation', product safety would be the only criterion for approval decisions. More generally, 'technological progress' and 'sound science' were widely cited as an objective basis for policy (Levidow and Marris, 2001). Likewise globalisation was invoked as an imperative for avoiding trade barriers.

That policy language was undermined by various food scandals, especially the BSE crisis. Critics highlighted the optimistic assumptions which underlie industrial-type 'efficiency', safety claims and 'risk-based regulation'. Often targeting agbiotech, their criticisms linked 'globalisation', threats to democratic sovereignty and hazards of industrialised agriculture (Murphy and Levidow, 2006). Public controversy raised the stakes for 'science' and generated suspicion towards expert claims.

As the EU crisis illustrates, neoliberal policies leave governments vulnerable to legitimacy problems. According to a neo-Gramscian analysis of ideological hegemony, 'economic globalisation and political change have created a crisis of the old hegemonic structures and forms of political consent, which are now coming apart...' (S.Gill, 1993: 32-33). Global governance 'can be seen as a product of two phenomena: the pursuit of neoliberal forms of globalisation, and the resistance to such centralisation of power' (Paterson et al., 2003: 149). Governance can mean citizen activity which enhances the accountability of representative democracy, but the term can have quite different meanings, depending on how problems are framed.

In mainstream policy language, governance is often understood as co-operative means to deal with common problems. It denotes 'a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken' (CGG, 1995: 2). According to political scientists, governance involves social institutions 'capable of resolving conflicts, facilitating cooperation, or, more generally, alleviating collective-action problems in a world of interdependent actors' (Young, 1994: 15).

At the same time, policy issues involve contending problem-definitions. Tensions arise between resolving a problem, on the one hand, and containing conflicts around the problem-definition, on the other. 'Process management' addresses this tension, e.g. through wider participation sometimes called governance (Young, 1997). Such participation involves the premise 'that a problem is "common", in the sense that stakeholder advantage cannot be obtained – nor, often, defined – independently from collective reasoning'. Yet often such advantages are foreseen and pursued; some stakeholders pursue antagonistic agendas (Pellizoni, 2003).

According to critical perspectives on 'governance', this concept helps to contain or marginalise antagonistic agendas:

As Moreau Défarges and others have suggested, the vocabulary of governance conveys the idea that the world of politics, as it was invented and has been practiced for more than two centuries, is de facto obsolete. Not only because it is based on an overly conflictual understanding of the social, but also because it relies too much on the State and the formal procedures of representative democracy.... (Pestre, 2006).

As theorised partly at the London School of Economics, governance aims at establishing common values for the management of a collective and ultimately reconciled future: 'The only remaining questions are procedural and managerial in nature' (ibid.).

According to another critic, governance strategies provide a 'discursive depoliticisation', effectively removing societal choices from the political agenda. 'The democratic public is dislodged from its position as (in principle) the ultimate judge and arbiter in the realm of "governing"; with governance, it is at best one among many stakeholders; it [the public] merits no privileged position' (Goven, 2006). In this strategic sense of governance, fundamental conflict can be displaced onto supposedly collective problems and solutions. Choices about societal futures can elude the formal accountability of representative democracy, even through participatory exercises.

This tension has been theorised as 'two contrasting advocacy coalitions'. Neoliberal governance invokes 'sound science' for approving safe products, as a basis for consumer choices; it puts the burden of dialogue on the private sector. By contrast, participative governance accommodates cultural diversity, social fairness, and more equitable power relations; it downplays the formal electoral process, in favour of civil society (Walls et al., 2005).

Such a contrast is misleading. Yes, public participation can downplay electoral politics and thus representative democracy, but only to make decisions less democratic. This displacement is integral to neoliberal governance. Neoliberal and participative elements exist in tension within the same 'governance' process, not just as antagonistic coalitions or distinct forms.

According to Lars Klüver (2006), a long-time promoter of public participation, it has recently become mainstreamed, along with changes in its policy role. Originally public participation was promoted as a vehicle for democratisation and citizen empowerment, so that people could challenge policy assumptions and influence decisions. Now public participation goes hand-in-hand with liberalism: politics is seen as a market of opinions, so citizens should be invited into the open market. Participation becomes yet another governance tool among others, e.g. for adjusting, supplementing or enhancing the policy process. Aware that they often lack public confidence, policymakers seek methods of upstream conflict-management. These professional reasons have recently driven interest by mainstream institutions in public participation and will continue to do so (ibid.).

That perspective contrasts with Andy Stirling, who advocates the earlier 'democratisation' agenda for enhancing the public accountability of innovation trajectories. To do so, participatory design should acknowledge that science and innovation are social, cultural and institutional activities.

As such, public engagement offers a way to be more accountable for the particular values and interests, which underpin both the governance of science

and the general use of science in governance... Public engagement holds greatest value when it occurs 'upstream' – at the earliest stages in the process of research or science-informed policy making... In practice, the relationship between representative democracy and participatory methods becomes most clear and complementary, when engagement is approached as a means to 'open up' the range of possible decisions, rather than as a way to close this down. Choice among the options thereby identified then becomes a clearer matter of democratic accountability (Stirling, 2006; cf. Stirling 2005).

As a more modest scenario for accountability, public engagement could be helpful to explore societal choices: 'the main purpose of a public debate is not to eliminate the conflict, but possibly to clarify what [the] conflict is really about' (de Marchi, 2003).

Drawing on all these perspectives, the rest of this paper analyse conflicts around European participatory exercises over agbiotech. Governance will be understood as a contradictory process – constructing societal problems as common ones, while constructing the public in their image, through a discursive depoliticisation which may reduce contentious issues to managerial ones. This offers a potential means to manage societal conflicts over technological innovation, regulation and its neoliberal framework – but can also extend those conflicts.

4 1990s participatory governance: biotechnologising democracy

In the 1990s several European countries held consensus or citizens' conferences, where ordinary people critically evaluated expert claims about agbiotech. The search for participatory consensus tended to keep any evaluation within a risk-benefit framework, while marginalising alternative problem-definitions. The process generally reduced wider issues to product characteristics, their expert evaluation and regulation. Despite aspirations to democratise technology, the process tended to biotechnologise democracy (Levidow, 1998). Here are examples from three countries, where mainstream institutions funded participatory exercises.

Germany: participation trap

In the early 1990s the German government sponsored a technology-assessment (TA) exercise on GM herbicide-tolerant crops. It was funded by the Ministry of Industry and Research, which was strongly promoting biotechnology, as an experiment in environmental conflict management (B.Gill, 1993, 1996). Unlike most TA exercises in Germany, this one invited broad participation, perhaps because it was coordinated by the Berlin Wissenschaftszentrum (Science Centre), whose social scientists understood the legitimacy problems that were at stake.

The organisers set the remit for TA as a risk-benefit analysis of herbicide-tolerant crops as such. Criticising that 'technology-induced' approach, environmental NGOs counterposed a 'problem-induced' approach. They argued that the TA should compare biotechnology products to other potential weed-control methods, as alternative solutions to agricultural problems. However, the organizers rejected the NGOs' proposal.

In effect, the official terms of reference favoured experts in specialized technical areas. The TA exercise set a lower burden of evidence for demonstrating benefits than for demonstrating risks; consequently, it emphasized environmental benefits, especially the prospects for farmers to use less harmful herbicides and/or lower quantities of them. The evaluation referred to chemical-intensive agriculture practice as an acceptable baseline.

Biotechnology critics faced a dilemma. Once inside such an exercise, 'They have to criticize a technology which promises to satisfy some needs which may even be produced by the technology itself...' (B.Gill, 1993: 74). That is, putative benefits satisfy 'needs' which are predefined by biotechnological solutions for intensive monoculture. Thus TA tends to accept and reproduce the social vision built into the technology. Finding themselves in a 'participation trap', environmental NGOs withdrew before the TA exercise could report its conclusions. With this move, they could devote greater resources to public protest and preserve their credibility with NGO members (B.Gill, 1993: 81-82).

For this withdrawal, they were criticized by TA coordinator: 'Participation in the procedure implies the readiness to submit oneself on the empirical issues to the judgement of science' (van den Daele, 1994, 1995: 84). Fundamentally at issue, however, was the range of questions to be answered by science, as well as the alternative technological directions to be considered. By pre-empting these issues, the TA exercise reinforced the existing policy framework and its public unaccountability.

Denmark: sustainable agriculture?

The Danish Board of Technology was established by the Danish Parliament to broaden debate and expertise on policy options. The DBT initiated the model of a consensus conference, centred on a lay panel of 'interested citizens'. They question and evaluate expert assessments, whereby 'experts' include scientists, opinion-formers and anyone whose knowledge goes beyond general knowledge. Through such scrutiny, the panel seeks to reach a consensus on practical recommendations (Klüver, 1995: 47).

For those reasons, the Danish consensus conference has been valued as a 'counter-technocracy'. The lay panel has no vested interest in the outcome, and its report helps to promote TA as a broad social process. It extends a tradition of people's enlightenment, whose principle is that 'a well-functioning democracy requires a well-educated and engaged population' (Klüver, 1995: 41). In the Danish consensus conference, then, 'interested citizens' personified a political culture in which technological decisions are held accountable to public debate, mediated by Parliament.

The DBT held its first 'consensus conference' on 'Gene Technology in Industry and Agriculture' in 1987, timed to coincide with Parliamentary debate on the issue. The DBT also funded a subsequent programme, organized by trade unions, to stimulate further debate on advantages and disadvantages of biotechnology. Their educational materials posed questions about sustainable agriculture: for example, would genetically modified crops alleviate or aggravate the existing problems of crop monocultures?

The wider societal debate was initiated by environmental NGOs, which demanded a statutory ban on GMO releases. In response to public concerns, a Parliamentary 'green majority' imposed such a ban in 1986 (Toft, 1996). The government also allocated funds for a mass education campaign on biotechnology. In these ways, environmental NGOs gained extra resources and political opportunities to influence the issues for further public debate. Their publications linked the risks of biotechnology for the environment and for sustainable agriculture.

Consequently, Danish regulators remained under pressure to evaluate broad agri-environmental effects of GM crops. Such judgements were scrutinised by the Parliament, in turn taking advice from NGOs (Toft, 2000). Thus broader participation indirectly enhanced the public accountability of regulatory decisions, though not for agri-innovation choices, which eventually became more contentious.

France: neutrality of the expert state

By 1997 French regulatory policy faced a legitimacy crisis. France had led efforts to gain EU-wide approval for GM crops, yet these were now opposed by a broad range of organizations, as well as many prominent scientists. In response to early protest, the government accepted a proposal from the Parliament to organize a citizens conference on agbiotech. As an official rationale, this event would provide 'a new way of elaborating decisions' and to implement 'participatory democracy', according to the Ministry of Agriculture. Yet the government never clarified the relation between the citizens conference and its own decision-making procedure.

Implicitly the conference was used to re-assert the neutral or benign expertise of the state. Representing such a state model, a Parliamentary unit appointed the steering committee, which in turn decided that the citizens panel should be selected so that members would represent 'average' views – rather than stakeholders in the debate. It also decided which 'experts' (all of them scientists) would give briefings or testimony to the panel, thus framing the issues in advance (Marris and Joly, 1999).

Held in 1998, the conference process manifest different framings of the problem. At the public hearings, the citizens panel often challenged claims by the experts about risks and benefits of GM crops. According to the report of the panel, control by multinational companies could threaten farmers' independence, yet GM crops could also bring economic benefits to European agriculture. In this way, the panel itself accepted the national problem-definition of a technological gap whose solution requires public-funded science, presumed to be neutral or pure.

In the report by the panel, specific recommendations focused on institutional arrangements for managing agricultural biotechnology. Such measures included greater social participation in scientific advice; public-sector research on ecological risks and innovation; a system to ensure traceability of food derived from GM crops; and adequate labelling to inform consumer choice (OPECST, 1998).

Their conclusions were translated into policy advice by OPECST, as if Parliament were neutral experts in the public good. For example, the citizens panel had proposed that a citizens' commission should be part of the scientific advisory committee. Yet OPECST recommended that it be kept separate; this proposal better served to perpetuate a neutral image of scientific advice.

Overall the OPECST advice anticipated and reinforced the general direction of government policy, e.g. more stringent criteria, risk assessment by a broader scientific expertise, and 'independent' research, which was equated with public-sector institutes. In June 1998 the government announced measures along those lines (Marris and Joly, 1999). Institutional reforms emphasized expert procedures to minimize the risks and enhance the benefits of a controversial technology. Thus the citizens conference was used by the state to legitimise its claim to represent the public good, while promoting agbiotech.

Contending problem-definitions

After the rise of anti-biotech protest in the late 1990s, some participatory exercises had a broader scope, consequently in tension with mainstream sponsorship. Unlike previous exercises, a 1998 UK Citizen Foresight panel had mainly academic funding and a low public profile. Asked to evaluate agbiotech, the lay panel decided to draw comparisons with alternative agricultures. Ultimately they saw no benefits or need for agbiotech in the UK, especially given those available alternatives (Wakeford, 1998). Although reflecting widespread public views, this broad-scope evaluation had no link with any policy process or mainstream institution.

Since the late 1990s such institutions have sponsored various EU-level stakeholder consultations on agbiotech. Participants defined the problem in divergent ways, especially the criteria for agricultural research priorities and risk-assessment procedures. According to some industry and government representatives, agbiotech products could facilitate Integrated Crop Management systems, but NGOs regarded them as incompatible. They sought a greater knowledge-base for adequate regulation and for a different innovation trajectory:

... generation of data on the impacts of different agricultural systems would provide a context for evaluation of the impacts of GM crops, and would make it easier to judge their significance.

What are the relevant agricultural systems to compare? ... Options are organic, extensive/integrated, or intensive/conventional agriculture... (SBC 2001, summary of Working Group III)

In such consultation procedures, NGOs have proposed research on less-intensive crop-protection methods, both as a more stringent comparator and as an alternative societal choice. 'Public participation might lead to better identification of research needs, e.g. comparison of agro-ecological consequences of conventional agriculture, IPM with/without GM crops, and organic agriculture' (SBC 2002). Thus stakeholder consultation underwent conflicts over the how to frame policy issues and define societal problems that technology could solve, far beyond regulatory issues per se.

5 UK 2003 Public Dialogue: contending constructs of the public

Since the late 1990s the UK has had sporadic, widespread public controversy over agbiotech. Facing an impasse over regulatory decisions, the government was persuaded to sponsor a formal public debate. Called 'GM Nation', it was carried out in summer 2003. The exercise aimed to elicit views of the ordinary public, rather than organisational representatives – a somewhat artificial distinction, given that most civil society organisations had discussed agbiotech at their own meetings.

The government sponsors also drew a distinction between lay and expert issues. Designed mainly for the lay public, 'GM Nation' formed one part of an overall Public Dialogue. In parallel, a government department analysed potential socio-economic benefits of GM crop cultivation in the UK, while an expert panel carried out a Science Review of literature relevant to risk assessment. The Public Dialogue was designed as those three separate parts, yet often the issues became inter-mingled. The official boundaries were both challenged and policed, thus constructing the public around them.

- Representing relevant views?

When participants in 'GM Nation' largely expressed critical or sceptical views towards agbiotech, arguments ensued over whether they were 'representative'.

According to a pro-agbiotech coalition, the Agriculture and Biotechnology Commission (ABC), the exercise was hijacked by anti-biotech activists, and the format was not conducive to deliberation of the issues. According to an academic analysis, however, that criticism frames the public as atomised individuals who have no prior opinion. The exercise predictably drew a specialised public which was largely hostile to agbiotech. Participants represented both themselves as individuals and wider epistemic networks, thus filling an institutional void, absent any other opportunity to deliberate the wider issues (Reynolds and Szerszynski, 2006).

The government sponsors had asked the contractors to involve 'people at the grass-roots level whose voice has not been heard'. As the official evaluators noted afterwards, however, it was problematic to distinguish clearly between 'an activist minority' and a 'disengaged, grass-roots minority'. Many participants in 'GM Nation' were politically engaged in the sense that their beliefs on GM issues formed part of a wider worldview. Yet policymakers tend to construct the public as a disengaged, even-handed majority, who thereby have a legitimate basis to participate in public engagement exercises (Understanding Risk Team, 2004: 135). Indeed, 'grass-roots' conventionally means local organised activists, yet this term was strangely inverted to mean a passive public.

As envisaged by the sponsors, focus groups would allow the public to frame the issues according to their concerns, yet special measures were needed to realise the policymakers' model of the public. They saw the public meetings as dominated by anti-biotech activists, unrepresentative of the general public. Inactive citizens were seen as truly representative and thus as valid sources of public opinion, by contrast to 'activists'. To exclude such individuals from focus groups, prospective participants were subjected to stringent screening criteria. 'Perhaps paradoxically, the desire to allow the public to frame the discussion in their own terms led the organisers to rely on private and closely monitored forms of social interaction' (Lezaun and Soneryd, 2006: 22-23).

'GM Nation' was intended to canvass all views and concerns about agbiotech, yet conflicts arose over the framing of issues. Participants used the deliberative opportunity as politically engaged actors in their own right, not just as indicators of public opinion. Attending shortly after the US-UK attack on Iraq, some participants drew analogies between government claims about agbiotech and about WMD. In both cases, they suspected the government was concealing or distorting information; they wondered whether it would ignore public opinion towards agbiotech. Initially the chair tried to steer the discussion back to agbiotech, on grounds that 'GM Nation' was not about the Iraq war, though participants continued to elaborate the analogy. Thus the public consultation had a disjuncture between public politics and government policy as understood by the sponsors (Joss, 2005: 181).

- Expert/lay roles

The Steering Group commissioned 'stimulus material' for the focus groups, so that they would have a common basis for discussion. The contractors were asked to create 'objective' information, though there were grounds to include 'opposing views' because this is often how people encounter information in real life'. The material did include divergent views, but their sources were removed from the workbook for focus groups. Afterwards the official evaluators questioned 'the extent to which information is meaningful if it is decontextualised by stripping it from its source' (Understanding Risk Team, 2004: 93-94; Wall et al., 2005).

Indeed, people often make judgements on the institutional source of expert views, but they had little basis to do so in 'GM Nation'. Omission of the sources was not simply a design deficiency in the exercise. By default, the issue of expert credibility was diverted and reduced to scientific information about biophysical 'risk', thus reproducing a lay/expert boundary.

Separate from 'GM Nation', the 'Science Review' was supposedly limited to experts evaluating scientific information. As the most high-profile event, the Royal Society announced a meeting to 'examine the scientific basis' of various positions. Opening the event, the chair announced the laudable aim 'to clarify what we know and do not know' about potential effects of GM crops. Yet its structure did not facilitate such a debate. In the morning, agro-ecological issues were seriously analysed, e.g. for their relevance to the prospect that broad-spectrum herbicides may be widely used in the future. But those complexities were later ignored when considering GM herbicide-tolerant crops in the afternoon.

Moreover, the boundaries of 'science' were policed along pro-biotech lines. Scientific credentials or criteria were invoked to ignore inconvenient issues and findings, as if they lay outside science. Moreover, speakers freely advocated the need for agbiotech to solve global problems, e.g. environmental degradation, the food supply, etc. However, anyone who questioned these claims was cut off – for going beyond science (Levidow, 2003). Thus the chairing reinforced biotechnological framing assumptions as 'science'.

In all ways sketched above, participation featured a struggle over how to construct the public. Participants challenged the implicit models being imposed upon them, e.g. dichotomies between grassroots versus activist, between lay versus expert status, between scientific versus extra-scientific issues, between agbiotech versus wider issues, etc. They found some opportunity to deliberate issues and play roles going beyond the sponsors' models of the public.

6 Conclusions

The Introduction posed the following questions:

What has been the impetus for European public participation in techno-scientific issues?

As a remedy for what problems? How have those problems been diagnosed? What participatory strategies have been developed? How does/can public participation enhance the accountability of representative democracy – or perhaps substitute for such accountability?

Government decisions on technological issues have encountered legitimacy problems, arising from the public unaccountability of representative democracy. Governments have promoted specific technologies as if driven by objective imperatives, e.g. global economic competition, trade rules, 'sound science', etc. As epitomised by agbiotech, a neoliberal policy framework pre-empted societal choices, rendered government untrustworthy and so earned public suspicion. In the late 1990s, European anti-biotech movements challenged that policy framework by linking various issues – unknown hazards, agro-industrial efficiency, commercially driven science, economic globalisation, unsustainable agriculture, etc. – as symbolised by agbiotech.

Government legitimacy problems have provided a major impetus for promoting and sponsoring public participation. Such initiatives can be analysed as a contradictory

governance process – constructing societal problems as common ones, while constructing the public in their image, through a discursive depoliticisation which can reduce contentious issues to managerial ones (Goven, 2006; Pestre, 2006). Governance offers a potential means to manage societal conflicts over technological innovation, regulation and its neoliberal framework – but can also reproduce or extend those conflicts.

In the 1990s state bodies sponsored participatory exercises called ‘consensus’ or ‘citizen’ conferences on agbiotech. Demands for alternative agricultures conflicted with the search for a consensus view on agbiotech, thus keeping any evaluation largely within a risk-benefit framework. Participatory processes channelled the wider controversy into regulatory issues and scientific expertise as the appropriate basis to address them. Despite aspirations to democratise technology, the process generally biotechnologised democracy; it reinforced assumptions about this technology as progress, albeit warranting more stringent, publicly accountable regulation.

As anti-biotech protest intensified in the late 1990s, public suspicion became a focus of policy analysis. Prevalent diagnoses shifted their focus from public irrationality, to public distrust, even to institutional untrustworthiness. Alongside this shift in deficit models, public participation gained mainstream support as a governance tool for upstream conflict management. In the UK, for example, ‘GM Nation’ was designed to survey public concerns for informing government efforts to address them.

Any participatory design structures or simulates the conflicts to be managed, in relation to wider public debate. As proposed by an EU action-research project, ‘risk governance’ has several ideal or explicit roles for addressing public suspicion. As shown in the three columns of Table 1 (see bottom half), these roles provide a heuristic device to analyse conflicts around public participation.

- i. Risk governance aims to make the regulatory process more open and trustworthy, for which public participation can help to identify practical means. In the UK Public Dialogue, however, openness was contested and shaped according to different models of the public. To favour previously unheard ‘grassroots’ voices, the organisers devised special procedures to monitor and select participants. Chairs discouraged some comments relevant to the trustworthiness of government. Nevertheless participants often challenged those constraints and boundaries.
- ii. Risk governance aims to make decisions more accountable for their basis in science, uncertainty and policy, i.e. its extra-scientific aspects. In the UK Public Dialogue, such issues were nominally separated through a tripartite division – lay public concerns, scientific expertise on risk, and economic benefits. Accordingly, biophysical ‘risk’ and regulatory issues were separated from socio-political sources of conflict, e.g. societal needs and government accountability. Yet all the issues became mixed, in ways that both challenged and policed lay/expert boundaries.
- iii. Risk governance aims to develop participation as a means to accommodate conflicting goals and to build common values. In the 1990s examples of public participation, a regulatory focus provided a common value which could incorporate and/or marginalise conflicts over the agri-biotechnological trajectory. EU-level stakeholder consultation manifest tensions between a

focus on agbiotech and demands for alternatives, amid contending accounts of 'sustainable agriculture'. In the UK Public Dialogue, conflicts likewise arose over the scope of policy issues to be debated.

What do these tensions mean for the accountability of representative democracy? For the three above aims of risk governance, public participation often reproduces and extends the deeper conflicts at stake: public engagement can 'clarify what conflict is really about' (de Marchi, 2003). In some cases, public participation has evaluated and reinforced regulatory changes which may help publics to hold governments accountable for 'risk' judgements.

Participants have also sought to open up the implicit political basis of technological decisions, especially vis à vis alternative futures, but this effort has proven difficult. Participatory exercises could potentially enhance the public accountability of representative democracy for such technological choices; if only by default, however, public participation has tended to substitute for such accountability.

Understood as 'risk governance', participatory exercises involve practical contradictions. Pervasive tensions arise between discussing a 'common' problem versus containing conflicts around the problem-definition, such as risk-benefit analysis, objective imperatives, etc. Wider participation can reinforce and/or contest the political agendas which drive technological decisions.

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