



THE STRATEGIC
SOCIETY CENTRE
ANALYSIS • EVIDENCE • POLICY

Using Social Science to Regulate People, Business and Technology: A practitioner's handbook

Peter Bailey

November 2011

www.strategicsociety.org.uk

About the Strategic Society Centre

The Strategic Society Centre is a London-based public policy think-tank. We apply evidence-based strategic policy analysis to complex societal problems. Our vision is a strategic society identifying and responding to the challenges it confronts. Our work is independent, objective and free of partisan association.

The Strategic Society Centre
145-157 St John Street
London EC1V 4PY
info@strategicsociety.org.uk
www.strategicsociety.org.uk

The Strategic Society Centre is a registered charity (No. 1144565) incorporated with limited liability in England and Wales (Company No. 7273418).

About the Author

Peter Bailey joined the Environment Agency in 2001. For the last four years, he has been the social science manager, having previously worked in a variety of research and advisory roles for the EA. Peter was a researcher at the Stockholm Environment Institute, University of York office, between 1992 and 2001. During that time, he was also a research fellow in the sociology department at York and a visiting research fellow at Aston Business School. He has a degree in engineering from Cambridge University and a research degree in sociology from York University.

peter.bailey@environment-agency.gov.uk

Published by The Strategic Society Centre.
© The Strategic Society Centre, 2011

Disclaimer

All opinions expressed in this report are the personal opinions of the author only, and should not be attributed to the author's employer or any other organization.

Contents

Executive Summary	Page 3
1. Introduction to Applying Social Science in a Regulator	Page 5
2. Practicing Social Science – A Repertoire of Techniques	Page 8
2.1 Straightforward social facts	
2.2 Social facts underpinned by methodology from the social sciences	
2.3 Translating social science into everyday language	
2.4 Tools and techniques for analysis, appraisal and evaluation	
2.5 Leading the organisation with social science	
2.6 Applying the authority of professional social science	
2.7 Collaborating with other professions	
2.8 Working with external social science networks	
2.9 Deciding when to apply which technique	
3. Conclusions	Page 18
3.1 Understanding the context – working with users	
3.2 Working with other knowledge providers	
3.3 Instrumental knowledge and the social sciences	
4. Recommendations for Practitioners, Regulators and Delivery Agencies	Page 21

Acknowledgements

I would like to acknowledge the help, advice and learning provided by social science colleagues, past and present, at the Environment Agency. Too many names to list but thanks, you know who you all are. I would also like to thank The Strategic Society Centre for this opportunity and, in particular, the support provided during the production of this paper by James Lloyd and Bridget Hutter.

Executive Summary

This paper explores the challenges and opportunities of practicing social science in a government regulator and agency, presenting a repertoire of practices developed and learnt working in a regulator. The repertoire ranges from the simple provision of social facts to much more involved techniques, such as leading the organisation with social science. The paper concludes that social scientists must understand the organisational context of government departments, agencies and regulators if they wish to operate effectively. This includes learning to work with other analytical professions (such as science, statistics and economics) and developing social scientific practices that produce instrumental evidence and advice that assist in the solving of problems.

This paper explores the challenges and opportunities of practicing social science in a government regulator and agency.

Being effective at work often requires adopting different styles of working for the variety of situations and contexts encountered in the job. This is also the case for practicing social science in a government regulator and agency.

This paper presents a repertoire of practices developed and learnt working in a regulator. Each individual practice in the repertoire is presented and analysed against a common framework. Guidance is provided on when each approach can be applied, and the advantages and disadvantages of each practice are considered.

The repertoire in the handbook ranges from the simple provision of social facts to much more involved techniques, such as leading the organisation with social science. The handbook uses Michael Burawoy's framework of four types of sociology - professional, critical, policy and public - to reveal the opportunities and challenges for professional social scientists working in the government sector.

Specifically, the paper examines the links between instrumental policy social science and social science in its other forms. This is of practical significance for many social

scientists trying to make sense of their unique contribution to the production and use of evidence in the public sector.

The paper concludes that social scientists must understand the organisational context of government departments, agencies and regulators if they wish to operate effectively. This includes learning to work with other analytical professions (such as science, statistics and economics) and developing social scientific practices that produce instrumental evidence and advice that assist in the solving of problems.

The paper presents six recommendations:

- ▶ Social scientists initially should deliver the narrow evidence needs of their organisation. This will demonstrate the relevance of social science and having an impact establishes credibility.
- ▶ The most important issue for social researchers to consider is the organisational context in which they work. What is possible is mainly determined by institutional context and cultural preferences, rather than the norms of professional practice in the university sector.
- ▶ Social scientists need to actively decide how much social science to reveal to their audience. They need to introduce the insights from social research. But there will be a spectrum of interest amongst colleagues regarding how much they want

to engage with, what is often, an unfamiliar knowledge practice.

- ▶ Regulation and the provision of public services both involve working with wider society. Social scientists are best placed to systematically help their organisation understand the wider society in which they seek to operate effectively.
- ▶ Social scientists need to have confidence to assert their unique contribution when it will address an issue of importance to the organisation. Social scientists can also help government agencies and regulators avoid making mistakes about how they think about, or interact with, society. It is through these contributions that social researchers add value and justify their role in a regulator or government agency.
- ▶ Regulators need to be prepared to listen to social scientists. They have been trained differently to the majority of regulatory staff; social scientists are able to create new evidence, understanding and ideas that can solve existing organisational problems.

1. Introduction to Applying Social Science in a Regulator

This paper explores the challenges and opportunities of practicing social science in a government regulator and agency....

The use of evidence in government departments, agencies and regulators forms a central part of contemporary policymaking and policy implementation.¹

Governments use social scientists to help make sense of the world, understand impact, evaluate policy outcomes and forecast the likely effect of potential policy (change).

Guidance available to public officials on evidence based policymaking² and government agencies now have evidence departments and refer to evidence in their corporate strategies and plans.³ Much of this material refers to evidence from the natural, engineering and technical sciences but also to the analytical services in government such as economics and statistics. The use of evidence from the social sciences is well established for some policy issues such as crime, work and health, and is increasing for other policy areas such as the environment.⁴ Here, social science refers to a broad set of disciplines such as sociology, psychology, anthropology, human geography, political science and criminology, but excludes economics. This is because economics has a separate status within Government analytical services.

The situation with respect to social scientific evidence one step away from the centre and into national agencies and regulators is less well known. This paper explores the challenges and opportunities of practicing social science in a government regulator and agency. It is presented as a handbook of techniques and a repertoire of styles available to practitioners. It is also of interest to the users of evidence in regulators and agencies (and their sponsoring government departments) who wish to understand how to apply social scientific evidence in their work. And it is of interest to academics in social science disciplines who may want to interact with such public bodies. The handbook reflects around a decade of experience of

applying social science in a regulator. It draws upon case studies from an environmental regulator and agency but the intention is that the material will have wider significance and resonate with practitioners in other public agencies, government departments and regulators.

The intention is not to review recent debates on the specifics of evidence based policy making in Britain.⁵ Instead, the central concern is about the application of social science in public bodies. Specifically, this handbook draws upon perspectives from the social sciences that have informed the practices described in this handbook. This includes the sociologist Michael Burawoy's discussion of public and other forms of sociology.⁶ Before introducing Burawoy's approach, it is worth answering, in simple terms, the question:

Why does regulation need social science?

Regulation is all about people – people as individuals, people in households, people in business – and getting them to do something that the government wants them to do. Consequently, regulation can mean getting people and businesses to do things they do not want to do, they may not understand and/or don't think are in their best interest.⁷ Additionally, regulation is about working with organisations and the people with different roles within organisations. Social science has a lot to say about these topics and is equipped with methods to explore these topics in detail and with rigor.

A note on language

The handbook is written in everyday language as much as possible. But, it does draw upon some social science concepts. They are positivism, methodological relativism, discourse, instrumental knowledge and reflexive knowledge. The reader will get more from the handbook if they equip themselves with an

The esteemed British sociologist Michael Burawoy has made a case for sociology to engage with the public outside of the academic world....

understanding of these terms thus each is described in turn below.

Positivism - In this approach, a simple, and socially unproblematic, view of knowledge is taken. Knowledge describing the world is seen to flow from carefully conducted inquiry. Nature and society are viewed as real and exist independently of how they are observed.⁸

Methodological relativism - In this approach to analysis and inquiry, different interpretations, claims and counter-claims about an issue are treated from a symmetrical viewpoint i.e. they are equally valid from a methodological perspective.⁹

Discourse - The specialised language, narratives and set of practices associated with an issue especially in an institutional or political setting. It includes attention to how the issue is framed and the use of power relations to set the boundaries on what is known, discussed and practiced.¹⁰

Instrumental knowledge – Knowledge commissioned, created and used for problem solving.¹¹

Reflexive knowledge – This type of knowledge is equally concerned with a dialogue about understanding social, institutional and political ends - as much as the content of the knowledge itself - and why such knowledge is being constructed anyway. Or put another way, it is knowledge that knows it has come to exist for a particular reason.¹²

Introducing an analytical framework from the social sciences

In his 2004 presidential address to the American Sociological Association (and later published in the *American Sociological Review*), the esteemed British sociologist Michael Burawoy makes a case for

sociology to engage with the public outside of the academic world.

Burawoy observes that the social sciences, and specifically sociology, like all other academic disciplines has both an academic audience and an audience beyond the ‘academy’. This forms one dimension of Burawoy’s division of sociological labour (Table 1). The other dimension is the type of knowledge of central concern - either instrumental or reflexive. For Burawoy, instrumental knowledge is about ‘puzzle solving’ whilst reflexive knowledge is concerned with ‘a dialogue about ends [to which knowledge is put]’.

Table 1: Burawoy’s division of sociological labour

	Academic audience	Extra-academic audience
Instrumental knowledge	Professional	Policy
Reflexive knowledge	Critical	Public

Burawoy elaborates upon, and provides examples of, the four types of sociology:

- ▶ Professional sociology supplies true and tested methods, bodies of knowledge and conceptual frameworks. It consists of multiple intersecting research programmes such as sociology of culture, family and race.
- ▶ Critical sociology’s role is to examine the foundations of the research programmes of professional sociology, to make it aware of its biases and promote new research programmes. It asks ‘who’ and ‘what’ is the sociology being conducted for?
- ▶ Policy sociology is sociology in the service of a goal defined by client. It exists to provide solutions to problems presented to sociologists by clients.

A recurring theme for social scientific practitioners in the public sector is how to make sense of these different types of social science labour whilst being required to deliver instrumental social science....

- ▶ Public sociology differs in that it involves a relationship between sociologists and the public in which the agenda of each is debated and each adjusts to the other. Public sociology may be played out in the media or in wider society such as amongst cultural groups or interest groups.

This categorisation of sociological 'division of labour' is useful here as it locates policy sociology - social science in the service of a client such as a public body - within a wider framework of sociological practice. The division of labour is important in the context of this handbook as it explains how social scientists are trained and reflects the professional practices of social scientists. A recurring theme for social scientific practitioners in the public sector is how to make sense of these different types of social science labour - that they are aware of from their time in the academy - whilst being required to deliver instrumental social science. This is compounded by the observation that other analytical professions in Government do not, in the main, follow reflexive practices. This is what makes social science a distinct analytical profession in government departments and agencies. (Social science does not have a monopoly on reflexive practice but government departments and agencies tend not to employ fine artists and philosophers.) Burawoy also explores the links between the different types of sociology and this issue will be returned to later in the handbook.

What's in this paper?

The next section of the handbook presents a repertoire of social science techniques that have been, and can be, successfully applied in a public agency and regulator. Success here refers to the provision of social scientific evidence, knowledge and advice that helps the organisation achieve its' objectives. These objectives relate to the duties, powers and services that the public body has been assigned to deliver by government. The emphasis here is on national public

agencies and regulators who deliver public services and/or regulate business and the public on behalf of the state. Each technique in the repertoire is described, the relevant methods identified and illustrated through case studies. The effectiveness, advantages and disadvantages of each technique is also presented.

The third section of the handbook explores context including issues of being useful for the organisation in which the work is done, working with other providers of evidence and the specific challenges this raises for social science.

The final section presents some recommendations on applying social science in a regulator and public agency. These recommendations are both for social scientific practitioners and for the users of the knowledge they produce.

Key points:

- ▶ This paper explores the challenges and opportunities of practicing social science in a government regulator and agency. It is presented as a handbook of techniques and a repertoire of styles available to practitioners.
- ▶ The intention is not to review recent debates on the specifics of evidence based policy making in Britain. Instead, the central concern is about the application of social science in public bodies.

2. Practising Social Science: A repertoire of techniques

This section presents a repertoire of practices developed and learnt by the author over ten years working in a regulator...

Being effective at work often requires adopting different styles of working for the variety of situations and contexts encountered in the job. This is the case for practicing social science in a government regulator and agency.

This section presents a repertoire of practices developed and learnt by the author over ten years working in a regulator. This has not been a solitary experience as the repertoire has been developed with, and learnt from, other team members past and present.

This is not a handbook of qualitative and quantitative social research methods. There are lots of teaching texts on this subject and even some government guidance such as the Magenta Book, the official guidance on policy evaluation published on the Treasury department's website. This document is about how to practice such methods in a government ('arms length') body.

For reasons that will be discussed in later sections, there are inherent structural challenges when applying social science in public administration in general and regulation in particular. It is intended that this handbook will provide something of a shortcut for other social science practitioners struggling with such challenges in similar situations and also help academic social scientists to understand how they can better interface with public bodies. It is hoped that the repertoire in this handbook will be like the recipes in an inspiring 'cookbook'. Try the recipe as is, adapt it or even improve it.

Each individual practice in the repertoire is presented and analysed against a common framework (as much to help the writing as to help the reader). Specifically, each practice has:

- ▶ A description;
- ▶ A commentary about social science method or methods;
- ▶ An example or set of examples;
- ▶ A discussion on the effectiveness of practice; and,
- ▶ A tabular summary of the advantages and disadvantages associated with the practice.

2.1 Straightforward social facts

Description: the provision of clear and simple to understand facts about society in general or specific social groups. This may be in the form of numbers or qualitative statements. This simple presentation is done because it is easily understood by non-specialists.

Method: This can be primary research (i.e. finding out new information) or desk-based secondary analysis such as obtaining findings from existing academic papers, studies, market research surveys and focus group findings. It can relate to what people do, what they believe or know, describe their attitudes and attempt to explain their behaviours. It is invariably a positivistic presentation of information to inform or problem solve.

Example: In response to a request for some social facts about people and water, the following numbers and information were provided, after referring to existing surveys,¹³ studies and academic research:

- ▶ 63% of adults use inland waters & 68% use coastal waters;
- ▶ Improved 'green' & 'blue' space attract more people to visit, help people to improve activity levels & relax thus improving health & well-being;
- ▶ For example, we have examples where visitor numbers have doubled when the environment is improved;

- ▶ 67% of users of Environment Agency managed waters value the wildlife, the natural world and the relaxation it provides highly.

Effectiveness of practice: This practice can be highly effective for some audiences and topics e.g. for senior managers when they want an overview and there is low or no controversy associated with the topic. The practice is less effective for informing people with a high level of experience in the issue or when the knowledge is uncertain or contested, or when the topic is socially or politically controversial.

Table 2.1 Straightforward social facts: pros and cons

+ Pros	- Cons
Simple presentation is easy to understand	May be an oversimplification of the social situation
Requires little or no engagement with underlying social research so suitable for general audience	Open to critique from experts
Quick to produce if primary sources available	May reduce or eliminate the visibility of any controversy around knowledge or problem definition

2.2 Social facts underpinned by methodology from the social sciences

Description: This practice involves the provision of facts and statements about society that are accessible to, and readily understood by, the intended audience. The evidence provided is underpinned by knowledge from the social sciences. But such expert knowledge - and the associated social science methods used to create it - is deliberately hidden from the audience. It is done so that a richer understanding of society informs

the work of the organisation without requiring active engagement with social scientific techniques.

Method: A range of qualitative methods are applicable in this part of the repertoire including ethnographic techniques, analysis of discourse and methodological relativism. Most frequently it takes the form of examining the issue in question using methodological relativism to better interpret and reveal the underpinning social dimensions of the issue of interest or problem of concern. The social research material generated is then analysed and presented to reveal social evidence of significance to the target audience in the form of facts and qualitative statements.

Example: a key concern in the Environment Agency is the existence of illegal activity, particularly in the waste sector. The people involved, illegal waste operators in EA terminology, are known as 'Illegals' and their opposites 'responsible operators'.¹⁴ Academic social scientific studies of regulation have revealed that compliance with regulations is a complex issue in practice and distinctions between compliant behaviour (and thus 'legal' activity) and non-compliant behaviour (and thus criminal activity in the context of most environmental legislation) are subject to regulatory interpretation and negotiation. With reference to criminology, that provides a more nuanced picture of criminal activity, and taking into account regulatory studies that provide a richer picture of the range of motivations for compliance, three social groups of 'Illegals' were presented – organised criminal activity; illegal activity that arises more out of incompetence than intent; and businesses that are illegal because they operate without the required permit but are essentially compliant and low risk to the environment. These three groups are presented as a statement of social fact to the audience and the methods used to arrive at them are kept hidden. The simple aim being to provide a richer social account of the problem that could better inform the target audience how to think about and thus address the issue.

Effectiveness of practice: This practice has proven an effective technique for getting social science knowledge into the organisation in situations where the judgement has been made that (a) such knowledge is important and can help move an issue ‘on’ and (b) the target audience is unlikely to engage with the full methodological approach. They just want ‘what’ is known, not ‘how’ we have got to know it. It is thus a technique for producing instrumental knowledge from social research practices that are more usually associated with interpretative research findings, rather than problem solving. It is usually not effective when the original framing of the problem is inconsistent with underlying social characteristics of the issue of concern.

Table 2.2 Social facts underpinned by methodology from the social sciences: pros and cons

+ Pros	- Cons
Allows a richer understanding of society to inform the work of the organisation	Social scientific practice remains hidden as only the problem solution is presented
Builds upon existing organisation thinking and framing of issues and problems	May be an oversimplification of the social situation; quality and contingencies of knowledge produced not revealed
	Difficult or impossible to reframe the problem if social science suggests that is necessary to better understand the issues

2.3 Translating social science into everyday language

Description: Translating social science into everyday language involves collecting and analysing what is known within the social sciences, synthesising this

knowledge and translating it into language for a non-expert audience. It is more than a literature review as it draws upon not only published material, but also training, participation and discussion within relevant academic networks. It provides social scientific insights to the organisation that may be seen as more authoritative because their academic pedigree is acknowledged.

Method: this method relies upon the professional expertise of the social scientist. They must identify relevant sub-disciplines, journals and academic networks of relevance to the issue. The next step is to become familiar with the content of the social science including major points of agreement or debate. This knowledge occasionally can be acquired quickly or it may require participation in an academic network for some considerable time. The material needs to be synthesised into the set of main issues, uncertainties and findings. The final stage is to communicate this synthesised knowledge in everyday language to the target audience in appropriate forms such as briefings, slides and contributions in workshops and meetings. The original source of the evidence is made explicit when communicating the content.

Example: Sociologists, political scientists and researchers from other social science disciplines have studied regulation in practice. This has produced a body of knowledge potentially of interest to regulators, for example on issues of compliance¹⁵ and regulatory enforcement.¹⁶ Most officials within regulators neither have the time, inclination or training to engage with this set of research. Instead, the social science team in the Environment Agency has translated this body of work into materials that are accessible to an internal audience. These include briefings, sets of slides and contributions in meetings and workshops that synthesise what is known – for example what factors tend to explain levels of compliance or the variables that explain the effectiveness of regulatory enforcement. The materials are presented in non-

specialist language but do acknowledge that they draw upon the work of social science specialists.

Effectiveness of practice: This practice is very effective when the audience is happy, in principle, with the application of social science to their own work area, but at the same time, they do not want to engage directly with the wider social science community or their specialist language. The explicit reference to the academic pedigree of the work can also increase the authority (and thus effectiveness) of the materials produced. The practice does have its drawbacks. For example, it can be difficult or long-winded to explain social science concepts and terms in everyday language to a lay audience so there is a risk that something important will be lost in translation.

Table 2.3 Social Translating social science into everyday language: pros and cons

+ Pros	- Cons
Academic insights available to a wider audience	Can be hard to convey the complexity and subtlety of the primary material
Explicit reference to academic pedigree of work can increase authority and effectiveness of contribution	The provision of adequate resources can be problematic as it requires fluency in the original language (i.e. the social sciences) for accurate translation

2.4 Tools and techniques for analysis, appraisal and evaluation

Description: The provision of tools and techniques that can be applied in the organisation to analyse the social dimensions of specific concerns or regulatory requirements. Such tools and techniques include GIS (Geographic Information System) applications, social appraisal checklists, evaluation templates. They are

developed when a repeat demand for a particular type of analysis, appraisal and evaluation is identified. They are sometimes for use within the social science team but more often are for non-expert users to apply to their work areas. This approach is followed as it is an efficient way of meeting common requests.

Method: The tool or technique is founded upon social research findings and social scientific practice. This is then translated into a simplified application that frames, or prescribes, the social analysis, appraisal or evaluation for the user. Typically the tool will be piloted and then refined in consultation with the user group.

Examples: (i) a GIS (Geographical Information System) application was developed to enable operational staff to explore the co-location of environmental quality with deprivation, as measured by the Government's Index of Multiple Deprivation.¹⁷ This was so that they could, for example, target improvements in environmental quality that would benefit communities in areas of deprivation or external organisations for partnership working. The tool was developed after extensive social research into environmental inequalities¹⁸ and in response to corporate objectives and targets. (ii) a social appraisal tool was developed to complement environmental and economic appraisal tools used in the organisation. The tool, in the form of a checklist, was developed from social research into the social criteria of importance to the work of the Environment Agency had been undertaken.¹⁹ (iii) an evaluation template was produced to allow the evaluation of regulatory and other kinds of interventions. The evaluation criteria were informed by knowledge of the political and social sciences, both in terms of process issues (such as how interventions may lead to changes in behaviours) and outcome issues (such as how to describe social impacts and benefits). Such templates enable social researchers to explore whether a specific intervention delivered the intended outcome. This can include the consideration of whether there were any practical

issues, for example, the capacity of the organisation to deliver the intervention or getting adequate engagement from the target group that limited the effectiveness of the intervention.

Effectiveness of practice: there has been mixed success in the development and application of tools and techniques for social analysis, appraisal and evaluation. The approach has been most effective when there has been a clear organisational need and demand from a group of users. For the practice to be effective it is necessary to invest both in the development of the tool and in training the user base. Tools can be an efficient, as well as effective, way of meeting the needs of a user group (i.e. economies of scale can be realised) and can be a way of getting social analysis delivered beyond a small group of social scientists. Typically, there is a limited 'shelf life' for any tool, often because of policy or operational context moves on and the tool no longer fits the specific needs. The practice is obviously ineffective if there are inadequate resources available for development, support or maintenance. Prescribed tools and techniques do not work when the specific issue being addressed differs too much from the one envisaged when the application was developed.

Table 2.4: Tools and techniques: pros and cons

+ Pros	- Cons
A way of meeting common and repeated demands	Limited shelf life for the tool or techniques (when policy or operational context moves on)
Social analysis can be delivered by non-experts	Resources needed to develop, support and maintain may be hard to realise
Efficiencies from may be realised by providing something once to many users	Prescribed approach may not suit specific contexts

2.5 Leading the organisation with social science

Description: this practice involves taking the initiative because the professional judgement has been made that social science can lead in providing the solution to a problem or lead in driving an improvement. It goes beyond the position that social science has something to say on an issue, to the claim that social science has the *most* to say on the issue. This approach is taken when it is predicted to be the most effective way to address an organisational issue.

Method: The first step in this practice is to identify that social scientific knowledge or analysis provides the most relevant set of evidence for a particular issue. The second stage is to enrol others to this view – both in the research and analytical services departments and in the department with the organisational lead for the topic. Ways of doing this include comparative examples ('it has worked in another organisation') and reasoning ('the main issue here is why people don't act and sociology suggests that ...'). Once these necessary conditions have been put in place, the practicalities of deciding what type of social research or analysis is needed, what resources, who to involve at what stage etc can be worked upon.

Examples: (i) flood risk management is primarily about managing risks to people and to their property. A consequence of this is that some of the feasible and effective responses to the risk of flooding include getting people to think and act with respect to flooding. Another consequence is that other public bodies need to be involved in the flood risk management system. Thus getting people and institutions to think and act about flooding is central to effective management and social science can claim to have the most to say on these topics. This led to a social science led initiative in the Environment Agency called 'Improving Institutional and Social Responses to Flooding' that led the organisation's work on, for example, targeting flood warnings and collaborating with professional

partners.²⁰ (ii) regulators have come under increasing scrutiny about the effectiveness of their regulatory interventions, through such initiatives as the Hampton Review.²¹ This has led to a need for evidence of what works and a broader understanding that regulation is about the legal, political, economic and social relations between the regulator and the regulated. Because of the work done by academics studying regulation (in disciplines such as political science, sociology, socio-legal studies), social scientists in the Environment Agency have been able to lead on providing evidence on the effectiveness of regulatory interventions.²²

Effectiveness of practice: this practice is only effective when the necessary conditions are in place, these conditions being: social science is the most significant set of knowledge for addressing the issue; other teams are enrolled in this view; and the necessary resources are available to deliver on the promise. Thus the practice is unlikely to not work if it is contested that social science is the most relevant knowledge. A common problem is when the team responsible for the issue does not want to be led by social science. (The reasons for this can be multiple, such as lack of knowledge of what social science has to offer, organisational cultural bias for other scientific or professional knowledge, a preference for non-expert approach to the issue rather than systematic social research and analysis etc.). This can often lead to problems securing appropriate resources. The technique relies on working well with other teams and good working relationships including trust and respect for each others' skills and knowledge.

Table 2.5: Leading the organisation with social science: pros and cons

+ Pros	- Cons
Best way of delivering the corporate objective when social scientific knowledge is the most significant	Can challenge other ways of working e.g. preference for other scientific or professional practices
Can be most rewarding for the social science team	Failure of initiative can damage reputation of social science
	Can be challenging and time-consuming to enrol others and secure resources

2.6 Applying the authority of professional social science

Description: this technique uses the authority of professional social science as the reason why work must be done in the organisation in a specified manner. This is typically done by claiming professional authority on the basis of social research guidance from government. This approach is the primary way of ensuring minimum standards of professional social scientific practice.

Method: a work item is identified as being within the scope of authoritative guidance on how to practice social science. The claim of the authority of professional social science is made with reference to the guidance. Help may be provided to implement the guidance. And any relevant work is scrutinised for compliance with the guidance.

Example: (a) the social science team in the Environment Agency is responsible for the appropriate application of the official English Index of Multiple Deprivation data in the organisation. A guidance note has been written on how such data should be used.

The authority claimed for this role is ‘the Social Science Manager is the data custodian for deprivation data in the EA and has oversight of social research and analysis in the EA’ and also ‘There has been a programme of high quality research on this topic funded, managed and done by the Environment Agency. This research has provided the evidence base for the application of deprivation data to EA work areas.’ (b) the social science team sometimes intervenes in the work of other teams in the EA when it is identified that other teams are using social research in their work poorly or incorrectly. Two common examples of this are (i) the application of behaviour change research and (ii) when a participation and engagement process describes social groups in ways that are inconsistent with the findings of social research.

Effectiveness of practice: this practice is, in general, ineffective. This is because there are few cases where there is authoritative professional social science guidance (either from government or from within the organisation). In general, the professional practice of social science in a regulator or government agency is more about enabling better understanding and practice than about ensuring compliance with professional norms and official practices. This also reflects the relative authority of social science compared to other groups such as natural scientist, statisticians and economists in government.

Table 2.6: Applying the authority of professional social science: pros and cons

+ Pros	- Cons
A way of ensuring minimum standards with professional practice, when these have been defined	Little authority of professional social science in public administrations
Raises profile of social research within the	Potentially inconsistent with the norms of social

organisation and thus provides wider authority and influence	scientific practice in other domains such as in universities and civil society
--	--

2.7 Collaborating with other professions

Description: many issues require information and knowledge from a range of academic disciplines and professional practices. This practice is about co-producing evidence and understanding with other groups. Typically it involves contributing social scientific research and understanding into work being led by other disciplines (such as natural scientists, engineers and economists) or other professional such as market researchers, communications professionals and even operational staff. It may involve leading such work through the application of methods originating from the social sciences such as action research (a method that simultaneously combines the process of enquiry with the application of the findings and typically attempts to involve researchers and practitioners on an equal basis). This approach is a way of getting social issues into work led by others and social scientific methods can help other professionals work effectively with multiple perspectives and interests.

Method: there are two main methodological approaches. The first is to find a way to contribute to a piece of work already framed by another group such as a natural science research team. Typically this is the provision of instrumental social knowledge (founded on positivism). The second approach tends to encourage learning by the group involved and emphasises pluralistic sources of evidence and systemic thinking. It may be explicitly labelled as action research (or some similar approach) or follow such methods implicitly.

Examples: (a) over the years, there have been numerous contributions to research projects led by natural scientists by the social science team. This

typically involves contributing to discussions in workshops and project boards so that social issues are revealed when significant and adequately captured to deliver the objectives of the project. An example is the inclusion of social data in a flood risk management analytical tool used to develop flood management strategies.²³ (b) the social science and market research teams have found a way of working together that reflects the professional practices of the two teams. Market research techniques predominately come from the professional practices of the commercial sector. Social research methods predominately come from the academic practices of the university sector. In the EA we tend to draw widely on a large set of social scientific methods and examine broad topics such as the effectiveness of our regulatory interventions and the social impacts of flooding. The market researchers tend to address more defined questions such as monitoring the effectiveness of communications initiatives and surveying how the people we work with perceive specific aspects of our regulation or other services. (c) the social science team has attempted to lead collaborations across the organisation based upon social scientific approaches, specifically through the application of action research and learning approaches.²⁴ An example of this has been our work on water planning in which we have attempted collaborative environmental planning involving relevant scientific disciplines, professionals with expertise in participation and engagement and external specialist and interest groups. These have had mixed success and the major issue has been how to 'up-scale' successful pilots across the organisation.

Effectiveness of practice: this practice is most effective when collaborating with 'like-minded' professions and groups. Thus, working with market research, external relations and communications professionals tends to be effective as, like social scientists, these professions privilege knowledge and understanding of external audiences and groups in society. It is possible to

contribute effectively to work led by natural scientists as long as it is in the form of instrumental knowledge (in other words, on their terms). Action research and other social scientific learning techniques have tended to occupy pockets of success. They typically require time and a receptive set of co-workers to be effective.

Table 2.7 Collaborating with other professions: pros and cons

+ Pros	- Cons
A way of getting social issues into work led by others	Work may be poorly framed or specified from a social scientific perspective
Possible to work effectively with other professions who understand the public and society	Can take a long-time to build effective collaboration e.g. shared understanding
Some social scientific approaches, such as action research, are designed to deliver effective collaboration in pluralistic settings	Some disciplines struggle to understand the starting point and overall value of social research

2.8 Working with academic social science networks

Description: in this technique, the emphasis is upon delivering social scientific research and analysis through external networks. These are typically academic staff in universities or specialist commercial organisations such as small consultancies. The work may be procured or a reciprocal relationship established where the external social scientist gains from working with the regulator. This approach provides access to high quality research, specialist advice and additional capacity.

Method: if the work is paid for, the method of delivering the work is subject to standard public sector procurement processes and organisational project management procedures. If the work relies on reciprocated benefits for both parties, and not a financial transaction, then it is necessary to establish such a relationship for success working.

Examples: (a) academics have to demonstrate the utility of their research to wider society including the public sector to their funders such as the ESRC (Economic and Social Research Council). They thus have an incentive to establish a working relationship with public administrations. In addition, such administrations may be the site of interest for their research. For the public sector social researcher, such relationships are beneficial as they provide empirical evidence that can sometimes be applied to the problems they are seeking to address and contacts with academics can help continuing professional development for the public sector social researcher. (b) there is a small network of academics and specialist commercial consultants who have established a track record of delivering high quality social research on flooding issues. This has come about both because of the professional and academic interests of this network and because of a long-standing joint Defra-EA flood risk science programme²⁵ that has funded tens of projects over the last decade or so. This has led to a situation where we have a body of existing knowledge to draw upon and a network of external social scientific specialists that can be drawn upon for ad hoc advice as well as procuring new work.

Effectiveness of practice: the success of this approach is extremely dependent on the quality of the relationship between the external network and the internal social science team. This is because it takes time and effort for both sides to understand each other, whether the basis of the relationship is a non-financial reciprocate one or a straightforward paying for a

service one. The approach tends to be ineffective if, for example, the academic interests of externals diverge too much from the interests of the regulator or government agency, or if the commercial arrangements for a procured piece of work fail (for any of the common reasons such as delivering to time, scope or quality).

Table 2.8 Working with academic social science networks: pros and cons

+ Pros	- Cons
Extends the available capacity of social scientists beyond the organisation	Reciprocal relationships take time to establish and maintain
Provides access to high quality research and advice	Services of external network may have to be procured so financial resources must be available to public sector social scientists
Supports professional development of social scientists working in the public sector	Interests of academics may diverge from public administrations resulting in loss of external capacity

2.9 Deciding when to apply which technique

Having presented above the main techniques in the overall repertoire, the next issue to consider, is, how to decide when to apply which technique? Part of the answer to this question is dependant on who the social scientific work is being done for. Several of the practices in the repertoire require active engagement by the user of the work in either the production of the evidence or in an appreciation of the social scientific practice that has produced the evidence. If that is not forthcoming, then the repertoire is reduced to a subset practices such as the production of straightforward social facts and the application of prescriptive tools

and techniques. This issue of who the work is for will be returned to in Section 3.

The choice of which technique to apply will also be constrained by practical issues such as resources (availability of specialist social researchers, availability of funds to procure services from external experts etc.). Such constraints tend to be binding in the short-term but can be worked with in the medium-term by making the case to the appropriate decision-maker for why resources should be allocated to a particular task.

Putting aside the two (important) issues of the likelihood of active involvement of the user and the short-term availability of resources, which technique should be applied when? The main criteria to consider when making this decision are:

- ▶ Does the user need to engage and understand the social context in detail for their work area or will summary information be sufficient?
- ▶ Is this a recurring issue for the organisation and worth addressing in some depth?
- ▶ Is this a common analytical requirement for the organisation?
- ▶ Is social science central to addressing this issue?
- ▶ Does the issue require knowledge from many disciplines and professions?
- ▶ Do we need to supplement internal capacity with external expertise?

Table 2.9 in the Appendix examines these questions and provides suggestions about which technique in the repertoire to apply in response.

Key points:

- ▶ Techniques explored in this chapter include: Straightforward social facts; Social facts underpinned by methodology from the social sciences; Translating social science into everyday

language; Tools and techniques for analysis, appraisal and evaluation; Leading the organisation with social science; Applying the authority of professional social science; Collaborating with other professions; Working with external social science networks

3. Conclusions

Social scientists in regulators often get involved in providing advice and knowledge about problems that arrive already structured in ways that reflect pre-existing organisational understandings and frameworks...

A decade of experience of practicing a repertoire of social scientific techniques in a regulator and government agency has led to three broad sets of conclusions.

The first relates to context, specifically the context of working with the users of social science knowledge. The second set of conclusions is around working with other knowledge providers. And the third is about the tensions inherent in practicing social science whilst having to deliver, what is predominately, instrumental knowledge for a public agency.

3.1 Understanding the context – working with users

When a new member joins the social science team in the Environment Agency, the first and most important piece of advice provided is that at least half of their job in their first year is about getting to know and understand the organisation. This is more important than, for example, being up to date with the current debates in their social science discipline. Why is this the case? The first reason is obvious, a regulator does different work to, say, a sociology department, and a new team member must get to know the work of a regulator.

But it is more subtle than this. There is a different politics of knowledge in a regulator than in academic social scientific networks. As Hisschemoller and Hoppe have observed, much evidence production in government is about the ‘analysis of technocracy’ and the preference in government and government agencies (including regulators) is to define and solve structured problems.²⁶ Thus social scientists in regulators often get involved in providing advice and knowledge about problems that arrive already structured in ways that reflect pre-existing organisational understandings and frameworks. These understanding and frameworks will almost certainly

have originated in other scientific, technical and professional disciplines. For example, environmental regulation is often concerned with chemical standards transcribed into environmental law so it is not unusual to work with (and for) people trained in chemistry or the law. Yet the issue to be addressed may be about how a group in society or a community near a site is interacting with this combination of chemistry and law in practice. Thus the social scientist has to get to know the organisational context and work out how to make an effective contribution to the problem at hand. This includes working with people who may have a different view on what evidence is and limited experience of social science techniques like qualitative research.

Regulators operate within specific policy areas and invariably there is a regulatory discourse associated with their work. This regulatory discourse – specialised language, narratives and set of practices – will incorporate the dominant policy framings of issues and rely on specific types of technical knowledge. Regulators also seek to be authoritative, both technically on a subject and because of the legal powers given to them. This leads to a preference for instrumental knowledge that can be defended if challenged by those subject to regulation - often with the possibility that this could be done in the courts. Social scientists working in regulators have to learn how to navigate their way through this organisational landscape.

The social science of behaviour change provides an example of how social scientists can actively identify what is useful knowledge within the organisation. Behaviour change has received a considerable amount of attention in policy debates over the last five years. This led to various initiatives including the behaviour change model in the Sustainable Development Strategy²⁷ and interest in concepts such as ‘nudge’.²⁸ The EA’s social science team tracked these initiatives and became active in various external academic and policy networks. However, it was not

The complication and challenge for social scientists working in regulators and government is that their disciplines have revealed to them the limitations and social contingencies of such a narrow definition of evidence...

always easy to identify how to situate this work within the organisation. In the end, the work was framed and presented in terms of the three corporate roles of the organisation and this allowed senior customers within the organisation to identify what behaviour change means for their work areas. They then were able to provide direction on where social scientific activity should be focussed. The decision was to concentrate on the key behaviour of importance to the organisation, compliance by business with environmental regulation. This led to the delivery of a programme of work looking at regulatory interventions and how they impact on business behaviour and compliance.

3.2 Working with other knowledge providers

Government social scientists are typically located within analytical teams and evidence departments in public bodies. Thus they work with other disciplines including economists, statisticians, natural scientists and engineering and technology specialists. These disciplines share two of Burawoy's four types of intellectual labour – professional and policy. There is thus often common ground to be found on these issues such as how to work with universities and research councils, and the challenges of getting evidence into the work of others in the organisation.

But the other two types of labour in Burawoy's four types - critical and public, which are founded on reflexive knowledge - are rarely found in other analytical and evidence disciplines. This tends to have one of two consequences. The first, and more common one, is a complete lack of understanding of what reflexive knowledge can add. Which in turn can lead to bemusement or frustration with social scientists who raise such knowledge. The second, more positive but rarer consequence, is that the social science team is looked towards to provide such reflexive knowledge. This manifests itself as being seen as providing a different perspective (often founded on ideas and

theories from critical social science) or as articulating lay knowledge and the voice of social groups (often founded on an appreciation and familiarity of what Burawoy terms public sociology).

3.3 Instrumental knowledge and the social sciences

Social scientists working in regulators and government agencies primary job is to provide instrumental knowledge and evidence of use to their organisation. The complication and challenge for them is that their disciplines have revealed to them the limitations and social contingencies of such a narrow definition of evidence. It is possible to find ways around many of these challenges. This is illustrated in Figure 3.1 that plots the repertoire of practices from Section 2 onto Burawoy's four types of social scientific labour. The figure illustrates how many of the practices are focussed on translating professional and critical social scientific practices into instrumental knowledge of use to the public organisation in which they work. So, for example, leading with social science may start from an understanding of critical (sociological) perspectives on the issue of concern. This includes questioning assumptions about what sections of society the work is for and how the evidence will be applied. It involves the use of professional academic social scientific methods but will, in the end, be focussed on the instrumental needs of the organisation. An example of working across Burawoy's division of labour is provided in the Text Box.

Figure 3.1 also reveals another issue for the public sector social scientist, when to practice 'public sociology' such as working with external civil society groups or revealing their perspectives and knowledge within the organisation. This is a tricky issue in practice, as it may be consistent with broader public policy framings of the role of the organisation in which they work whilst, simultaneously, be seen to go beyond the core day-to-day concerns of the

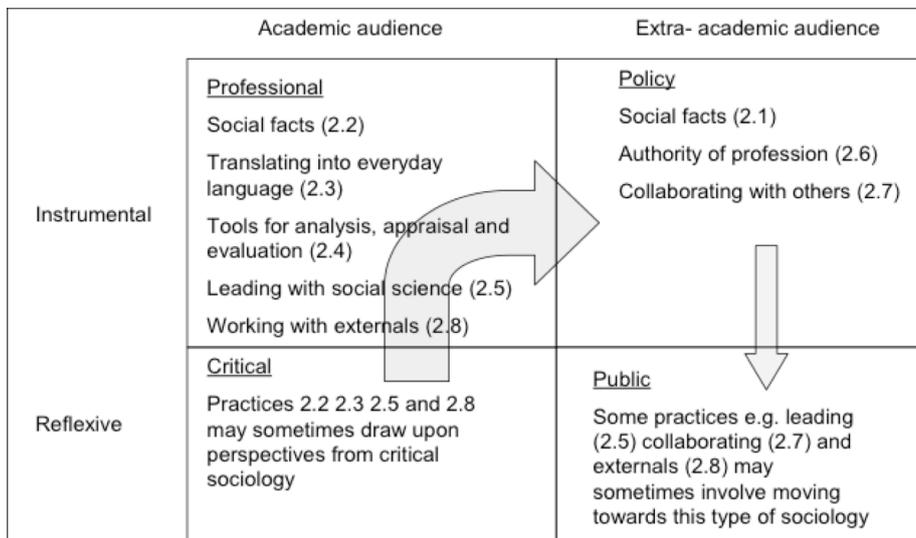


Figure 3.1 The practices in the social science repertoire plotted on to Burawoy's division of labour

organisation. The danger for a team leading on such social issues is that they may be seen by some within the organisation as some form of internal civil society group rather than the team of professional specialists whose job is to articulate such types of knowledge and understanding.

The discussion above underlines that a significant challenge for social scientists in government regulators and agencies is how to apply social scientific practices - such as those founded on reflexive knowledge and learning - within public organisations founded on the authority of instrumental knowledge and legal powers. The repertoire in Section 2 attempts to find a way to deliver the instrumental knowledge the organisation needs, whilst drawing upon a wider set of ways of understanding of the social world that the social sciences provide.

Key points:

- ▶ The repertoire of social scientific techniques described leads to three broad sets of conclusions, relating to the context of working with the users of social science knowledge, working with other knowledge providers, and the tensions inherent in practicing social science whilst having to deliver, what is predominately, instrumental knowledge for a public agency.

A tale of two regulators

Soon after joining the organisation, the author worked on water industry regulation. The Environment Agency is the environmental regulator for the water industry. Ofwat is the economic regulator of the water industry, primarily in place to correct monopoly power in the industry. The author's starting point was to critically examine 'whom' and 'what' regulation was for in the two regulators (critical sociology). The next stage was to apply methodological relativism to the work, not to assume that either regulator's perspective was right or wrong, instead they were treated as equally valid (symmetrically). The overall aim was to provide instrumental knowledge to the task in hand. Typically that task was to draft responses from the EA to the technical consultations of Ofwat, to write briefings and draft speeches for the top office.

The main method from professional sociology that was applied was discourse analysis. The author gained considerable knowledge of the discourse - the specialised language, narratives and set of practices - of both regulators. The wider discourse of economic regulation was also studied, for example, the specific discourse of Ofwat was compared with other economic regulators. This allowed the author to identify opportunities for where the issues of importance for the Environment Agency (such as investment in improved environmental protection) could be better represented in Ofwat's system of economic regulation. This instrumental knowledge (policy sociology) was then incorporated into the draft consultation responses, briefings and speeches for senior officials in the organisation. This was done without an explanation of the social scientific techniques used to deliver the knowledge, as only the results were shared.

4. Recommendations for Practitioners, Regulators and Delivery Agencies

The most important issue for social researchers to consider is the organisational context in which they work....

Social scientists should, first, deliver the narrow evidence needs of their organisation. This will demonstrate the relevance of social science and having an impact establishes credibility.

This handbook provides a repertoire of styles for practicing social science in a regulator or government agency. The most important issue for social researchers to consider when deciding what approach to take is the organisational context in which they work. Practicing social science within a governmental organisation is primarily about the art of the possible. What is possible is mainly determined by institutional context and cultural preferences, rather than the norms of professional social science as practiced in the university sector. Such professional practice should, of course, inform the work. But it rarely drives it. The handbook is predominately a guide about what do in response to organisational preferences, constraints and cultural practices.

Social scientists need to actively decide how much social science to reveal to their audience. They need to introduce the insights from social research of importance for the regulator or agency as this can improve the work of the organisation. But care is needed with respect to how much of the underpinning social scientific method and knowledge is revealed. There will be a spectrum of interest amongst colleagues on how much they want to engage with, what is often, an unfamiliar knowledge practice.

Regulation and the provision of public services both involve working with wider society. Regulators and government agencies need people with expertise on how to understand and work with society. Social scientists are best placed to systematically help the organisation understand the wider society in which they seek to operate effectively.

Social scientists need to have confidence to assert their unique contribution when it will address an issue of importance to the organisation. This includes making a decision when to reveal critical social scientific perspectives or to work with wider civil society. Social scientists can also help public sector organisations avoid making mistakes about how they think about, or interact with, society. It is through these contributions that social researchers add value and justify their role in a regulator or government agency.

Regulators need to be prepared to listen to social scientists. They have been trained differently to the majority of regulatory staff; social scientists are able to create new evidence, understanding and ideas that can solve existing organisational problems.

Key points:

- ▶ The most important issue for social researchers to consider is the organisational context in which they work.
- ▶ Social scientists need to actively decide how much social science to reveal to their audience.
- ▶ Regulation and the provision of public services both involve working with wider society. Regulators and government agencies need people with expertise on how to understand and work with society. Social scientists are best placed to systematically help the organisation understand the wider society in which they seek to operate effectively.
- ▶ Social scientists need to have confidence to assert their unique contribution when it will address an issue of importance to the organisation.
- ▶ Regulators need to be prepared to listen to social scientists.

Appendix: Table 2.9 Using the social science repertoire: deciding which technique to apply when

Criteria to consider	Response	Suggested technique(s)			
Does the user need to engage with and understand the social context in detail for their work area or will summary information be sufficient?	No	2.1 Straightforward social facts 2.2 Social facts underpinned by methodology from the social sciences		Yes	2.4 Tools and techniques for analysis, appraisal and evaluation 2.5 Leading the organisation with social science 2.6 Applying the authority of professional social science 2.7 Collaborating with other professions 2.8 Working with external social science networks
	Yes	2.3 Translating social science into everyday language (or perhaps 2.5 Leading the organisation with social science / 2.6 Applying the authority of professional social science for more involved issues)		Does the issue require knowledge from many disciplines and professions?	No
Is this a recurring issue for the organisation and worth addressing in some depth?	No	2.1 Straightforward social facts 2.2 Social facts underpinned by methodology from the social sciences		Yes	2.5 Leading the organisation with social science 2.7 Collaborating with other professions
	Yes	2.3 Translating social science into everyday language 2.4 Tools and techniques for analysis, appraisal and evaluation 2.5 Leading the organisation with social science 2.6 Applying the authority of professional social science		Do we need to supplement internal capacity with external expertise?	No
Is this a common analytical requirement for the organisation?	No	2.3 Translating social science into everyday language		Yes	2.7 Collaborating with other professions 2.8 Working with external social science networks
	Yes	2.4 Tools and techniques for analysis, appraisal and evaluation			
Is social science central to addressing this issue?	No	2.1 Straightforward social facts 2.2 Social facts underpinned by methodology from the social sciences 2.3 Translating social science into everyday language			

-
- ¹ House of Commons Science and Technology Committee (2006) *Scientific Advice, Risk and Evidence Based Policy Making*, Seventh Report of Session 2005-06
- ² Government Office for Science (2010), *The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making*, Department for Business, Innovation and Skills
- ³ Environment Agency (2011) Corporate Plan 2011-15, Environment Agency
- ⁴ Defra (2011) *Defra's Evidence Investment Strategy: 2010-2013 and beyond 2011 update*, Department for Environment Food and Rural Affairs
- ⁵ Davies, P (2004) *Is Evidence-Based Government Possible?* Jerry Lee Lecture 2004, www.nationalschool.gov.uk/policyhub ; Juntti, M., Russel, D., Turnpenny, J. (2009) *Evidence, politics and power in public policy for the environment*, Environment Science & Policy 12 (2009) 207-215; Stevens, A. (2011) *Telling Policy Stories: An Ethnographic Study of the Use of Evidence in Policy-making in the UK*, Jnl Soc. Pol. (2011), 40, 2, 237-255
- ⁶ Burawoy, M. (2005) *For Public Sociology*, 2004 Presidential Address in American Sociological Review, 2005 70 (February:4-28)
- ⁷ Hutter, Bridget M. and Amodu, Tola (2008) Risk regulation and compliance: food safety in the UK. London School of Economics and Political Science, London, UK
- ⁸ Jasanoff, S. 1999. The Songlines of Risk. Environmental Values 8:135-152
- ⁹ Shapin, S. 1995. Here and Everywhere: Sociology of Scientific Knowledge. Annual Review of Sociology 21: 289-321
- ¹⁰ Foucault, M. 1972. The Archaeology of Knowledge. Tavistock Publications, London
- ¹¹ Burawoy, M. (2005) *For Public Sociology*, 2004 Presidential Address in American Sociological Review, 2005 70 (February:4-28)
- ¹² Wynne, B. (1994). Scientific knowledge and the global environment. In *Social Theory and the Global Environment*, Michael Redclift and Ted Benton (eds). Routledge, London
- ¹³ Ipsos MORI (2009) *Water Related Recreation Survey*, Survey for the Environment Agency
- ¹⁴ Environment Agency (2011) Corporate Plan 2011-15, Environment Agency
- ¹⁵ Hutter, B.M. (1997) *Compliance: regulation and environment*, Clarendon Press, Oxford
- ¹⁶ Kagan, R.A. (1994) *Regulatory enforcement*, Handbook of Regulation and Administrative Law, Rosenbloom, D.H. and Schwartz, R.D. (eds) Marcel Dekker, New York
- ¹⁷ Department for Communities and Local Government (2011) *Indices of Deprivation* www.imd.communities.gov.uk
- ¹⁸ Stephens, C., Willis, R., Walker, G. (2007) *Addressing environmental inequalities: cumulative environmental impacts*, Environment Agency
- ¹⁹ Warburton, D., Christie, I., Wilkinson, D., Orr, P., Chalmers, H., Colvin, J. (2005) *Developing social appraisal criteria for the Environment Agency*, Environment Agency
- ²⁰ Twigger-Ross, C., Colbourne, L. (2009) *Improving institutional and social responses to flooding: Synthesis report*, Environment Agency
- ²¹ BIS (2005) *Assessing our regulatory system - the Hampton Review*, Department for Business Innovation and Skills
- ²² Gibson, E. et al (2011) *Effectiveness of Regulation: Literature Review and Analysis*, Environment Agency
- ²³ Environment Agency (2005) *Modelling and Decision Support Framework*, Environment Agency
- ²⁴ Chalmers, H. and Colvin, J. (2005) *Addressing environmental inequalities in UK policy: an action research perspective*, Local Environment: The International Journal of Justice and Sustainability, Special Issue: Environmental Justice in the UK 10 (4), 333-360, London: Routledge, Taylor and Francis Group
- ²⁵ Environment Agency (2011) *Joint Defra/EA Flood & Coastal Erosion Risk Management (FCERM) R&D programme*, www.environment-agency.gov.uk/homeandleisure/floods/38337.aspx
- ²⁶ Hisschemoller, M, Hoppe, R (1996) *Coping with intractable controversies*, Knowledge and Power: The International Journal of Knowledge Transfer and Utilization 1995-96, 40-60
- ²⁷ Defra (2005) *Securing the future - delivering UK sustainable development strategy*, Department for Environment Food and Rural Affairs
- ²⁸ Thaler, R.H., Sunstein, C.R. (2008) *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Yale University Press

The Strategic Society Centre
145-157 St John Street
London
EC1V 4PY

www.strategicsociety.org.uk
info@strategicsociety.org.uk

The Strategic Society Centre is a registered charity (No. 1144565)
incorporated with limited liability in England and Wales (Company No.
7273418).