

26 October 2007

**Social Justice in
Environmental Policy:
Final Report**
Department for Environment, Food
and Rural Affairs

NERA

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Contents

Executive Summary	i
1. Introduction	1
2. The Literature	2
2.1. Environmental Justice Literature	2
2.2. Other Literature on the Distributional Effects of Environmental Policies	4
2.3. Wider Social Justice Literature	6
2.4. Literature on Openness and Communication	14
3. Social Justice Issues in Environmental Policy	15
3.1. Introduction	15
3.2. Income Distribution and Reasonable Expectations	16
3.3. The Principles of Polluter Pays and of Beneficiary Pays	19
3.4. The Setting of Standards	23
3.5. Proportionality	25
3.6. Openness and Participation	26
3.7. International and Intergenerational Justice	31
3.8. Sustainable Development	33
3.9. Guidance on Social Justice in Environmental Policy	34
4. Conclusion	38
References	42
Appendix A. Specification	48
Appendix B. Report on Focus Group Discussions	52
B.1. Introduction	52
B.2. The Group Discussions	52
B.3. Concluding Remarks	55

Executive Summary

Social justice in the context of environmental policy can be summarised as “fairness”. It would be feasible in the environmental context (although not for all policy fields) to develop guidance to frame debate about fairness in policy development, in policy implementation and in public perceptions. However a major challenge is the great diversity of policy issues, academic disciplines and policy domains that this entails.

Policy issues include those of social distribution (by income and by ethnic, or other social grouping, including international and intergenerational equity); the circumstances in which absolute regulation (as with fly-tipping, or minimum levels of air pollution) is more or less appropriate than regulation subject to case by case cost-effectiveness (as with many industrial emissions), or than market approaches such as taxes or subsidies or tradable permits, or than no specific measure; the circumstances in which payment by polluters, or by beneficiaries, or the payment of compensation are appropriate; and issues of public perception and policy consultation and presentation.

The disciplines of philosophy, political theory, economics and other social sciences are each fundamental to some applications. Some issues have been subject to extensive philosophical debate, as for example by Rawls and Nozick, from different viewpoints, in the late 20th century. Some have exposed less than obvious relationships in economics, such as the insight of Coase that free markets alone would efficiently handle “externalities” such as damaging emissions if property rights were well established and transactions costs low. This shares common ground with the “public choice” theory of Buchanan and others, at the boundary of political theory, philosophy and economics, on the role and nature of incentives. Sociology is central to the understanding and interpretation of many distributional issues. Psychology is central to issues of public perception and communication. Other disciplines are central to the problems of comparing factors quantified in different dimensions.

Policy domains range across an immense range of mediums, physical phenomena and cultural dimensions, as for example with air quality and other damaging emissions, noise, drinking water quality, river water quality, flood protection, coastal erosion, waste disposal, the physical environment, wildlife, heritage, fuel poverty and climate change. Most of these and other domains present problems that are to a large degree case-specific, with limited potential for universal rules other than at a very high level.

Social justice in the environmental context is sometimes equated with “environmental justice”. However environmental justice describes what is essentially a political movement, promoting the interests of disadvantaged sections of society. It is politically significant. It can also provide policy-relevant data about distributional impacts by income and sometimes by ethnic group. However the environmental justice literature provides little insight into principles for policy guidance, even in terms of practical steps to improve the distribution of policy impacts by income or ethnic group. Besides which, social justice issues in environmental policy often relate to distribution between polluters and pollutees, or local beneficiaries and general taxpayers, that may bear little relationship to income, ethnicity, or other social grouping.

Defra has two reasons to be concerned about social justice in environmental policy. One is the obvious relevance of social justice to policy development, design and implementation.

The other reason is the role of actual and perceived social justice in public consultation on and presentation of environmental policies.

Both presentation and policy substance can be helped by public involvement in policy development; and information and consultation are themselves elements of “procedural justice” – that is fairness in the processes of policy development and implementation, as distinct from fairness in the policy outcome. However just and efficient policies can differ from those for which there is most national or local public pressure, or those which bring the most immediate institutional or political reward. Better achievement of social justice (both procedural justice and outcome justice) needs an awareness of and measures to offset these pressures.

Some environmental regulations, as with health and safety regulation, are defined as absolute limits and some as trade-offs (usually in terms of “best available technology not entailing excessive cost”). These two approaches are combined in health and safety regulation in the “tolerability of risk” framework developed by the HSE, which defines absolute, ethically determined upper limits of risk, while specifying cost-benefit trade-offs at lower levels of risk. There are differences between health and safety and environmental regulation, but a similarly structured presentation might help the efficient and equitable handling of some environmental hazards.

It is likely that taxes or charges (directly or through efficient permit regimes) as instruments of environmental policy will generally be regressive, in the sense of providing net benefits that have more monetary value relative to income for richer households than for poorer households. While this is politically and socially important, other instrument are available for broadly offsetting such distributional impacts and it would be unfortunate if they substantially impeded the introduction of efficient taxing and charging in this field.

“Sustainable development”, as defined in UK government, appears neither to add significantly to social justice nor to stand in the way of it.

Conclusions as below can be drawn with respect to the three main issues highlighted in the Specification for this study.

1) *Compensation, polluter payment and beneficiary payment*

Compensation, polluter payment and beneficiary payment are interrelated and rarely present obviously optimal solutions, even setting aside the political and administrative challenges of implementation.

The polluter pays principle originates with a requirement on polluters to pay to restore the damage they have done or to prevent further damage. The principle is uncontroversial in the context of suppliers (and so ultimately mainly consumers) having to incur the costs of meeting environmental product standards. However in cases such as land management there are arguments both for landowners meeting the cost of maintaining or enhancing environmental quality and for the community buying such services from landowners via general taxation.

Where an environmental cost falls on clearly identifiable people it would be more equitable and more efficient for payments by the polluters to compensate the pollutees rather than pay a

charge to the state. In practice, as for example with aircraft noise, this appears often not to be administratively feasible.

Payments by local beneficiaries for local environmental measures (such a flood and coastal protection) would in the long run be fairer. It would also provide incentives for more efficient outcomes than payment by taxpayers as a whole.

However one obstacle to *changing* any scheme for compensation or payment for loss or gain in environmental quality is that the financial impact of an environmental gain or loss often falls on property values, as a short term windfall loss or gain to the property owner. Thereafter those buying or renting the affected property generally face lower (or higher) property costs that reflect the environmental loss (or gain). Thus any change in policy regime may need to be introduced over many years if is not to be excessively harsh on or generous to some property owners.

“Reasonable expectations” is a key concept in compensation or other state support. A negative impact that could reasonably have been foreseen and acted upon does not generally merit any government compensation. A negative impact of a new or changed public policy that could not reasonably have been foreseen may merit some form of compensation if the effect on the welfare of individual people or households is very substantial.

In very many cases there are no ethically uncontroversial answers to questions of who should pay to undo, offset, or prevent damage to (or from) the environment. Judgement is always needed on what is a fair distribution of costs and benefits. It is therefore important that the distributional issues and arguments should be made clear in developing and proposing such policies, within government and to Parliament, to the media and to those directly affected.

Two small focus groups discussed such issues for this study, addressing the issues of aircraft noise, coastal and flood protection, the siting of a new waste incinerator and, in one case, intergenerational transfer. It appeared from these discussions that, in contexts of this kind, the interpretation of fairness is amenable to constructive public debate.

2) *Engagement of stakeholders in decision making: openness and participation*

There is a substantial literature on openness and participation in public policy, many of the issues being closely relevant to environmental policies. These include the engagement of stakeholders and extend more generally to transparency in policy decision making and implementation.

A wide range of approaches is used throughout government to promote openness of procedure, information disclosure and public participation. Useful lessons might be learnt from the practice of bodies such as the Food Standards Agency. Defra’s own activities in promoting the Warm Front programme exemplify good practice. Greater openness can however in some policy fields produce unhelpful incentives for excessive institutional blame-avoidance.

There is scope for more consideration of the relevance to environmental policy of the extensive literature on “risk communication”, which is taken seriously in for example health policy. Many psychological, social and institutional factors shape public responses to risk

and it is rarely enough for information to be provided without consideration of how the public will respond to it. This can be illustrated by case by case consideration of a range of environmental policies.

3) *Guidance on social justice in environmental policy*

There is scope for central guidance on the identification and handling of the distributional aspects of social justice. Guidance on social justice more widely would be too prone to presentational rhetoric or to temporary political bias. A suitable platform for further Whitehall wide guidance on distributional impacts could be a new edition of the “Distributional Impacts” Annex of the Treasury Green Book, although Defra might usefully set a lead.

Most social justice issues in environmental policy arise from distributional issues. This may be distribution by household income (or ethnic or other characteristic); or between polluters and pollutees; or between beneficiaries of local environmental benefits and national taxpayers as a whole, or between taxpayers and those adversely affected by changes in policy or other unforeseeable and uninsurable local environmental change. Some social justice issues arise from differences between the public interest and political or institutional interests. These are all issues that are amenable to politically uncontroversial guidance.

Points that could usefully be made in Defra guidance include the following.

1. In public policy development and implementation, the distributional aspects of social justice can be equated with “fairness”. There is no robust operational definition of fairness. However there are many concepts and headings that can help to frame debate and analysis.
2. A distinction can be drawn between process justice (following the rules or conventions) and outcome justice (the “fairness” of the outcomes that the rules or conventions produce). In terms of popular opinion, process justice often carries more weight. Process justice is important, but in the wider public interest this should not be allowed to divert attention from outcome justice.
3. One basic principle of fairness is that environmental regulation should be designed and implemented with equal consideration for all. As a principle this is uncontroversial, but influences such as good and fluent organisation by some groups set against weak communication skills, or a culture of acceptance, by other groups, may unbalance the distribution of public services. Policy design and implementation should consider this.
4. A distinction is often drawn in philosophy between inequalities that arise from choice, or “option luck”, and those that arise from “brute luck”. Life is full of brute luck and the extent to which the state can sensibly respond to this is very limited. However the destruction or substantial reduction in value of property for social needs such as infrastructure building routinely attracts compensation at the expense of taxpayers. There may be other circumstances where people’s reasonable expectations have been overtaken by uninsurable hazards where risk sharing between households and the state may merit closer examination.
5. The polluter pays principle is often understood to mean the polluter paying either to clean up pollution or paying the social cost of pollution to the state. This may often be the only practical mechanism, but polluter payments to the pollutees, if feasible, rather than to the

state, would in the long term be fairer and would provide better incentives to optimise cost-benefit trade-offs. (Emissions trading schemes are an application of the polluter pays principle, but only a weak application if the emissions permits are issued at no net cost to the polluting industry.)

6. The concept of the beneficiary paying for benefits provided by the state has a solid intellectual and ethical pedigree and is prima facie fair where substantial benefits are provided locally at a high financial cost.
7. The financial impact of a change in local environmental quality, even if it will deliver future social benefits over an extended period, falls mainly and immediately on property values. If these costs are large, changing a regime may therefore need to be phased over many years if large windfall gains or losses are to be avoided.
8. Governments face pressures to respond to populist, sometimes media driven opinion, rather than more reflective public reasoning that may not make itself heard. They also face temptations to introduce measures with a symbolic appeal rather than best reflecting the public interest. At the same time some substantial hazards of low news potential can sink towards the bottom of policy agendas. Institutions also face incentives to avoid the risk of blame, sometimes at heavy cost to those whom they are meant to serve. Good government demands effort to counter these many imbalances.

Further, methodological points that could usefully be made include the following.

1. Institutional difficulties, such as local authority financing conventions that are the responsibility of another government department, must be respected, but should not be allowed to prevent the exploration of better policies that changing them might allow.
2. Proportionality should be applied to all costs and benefits. Regulators should look for proportionate regulation and not generally for the tightest regulation that is technically and politically feasible.
3. The outputs of cost-benefit analysis, or other monetary analysis of a public service policy programme or project, should always be presented in a context that includes other material but non-monetised costs and benefits. They should also include a presentation of how the costs and benefits are distributed. This is generally best achieved by means of a one page appraisal summary table bringing all the impacts together. Consideration should be given to how judgments needed in comparing measures in different dimensions can best be organised including, for some applications, formal multi-criteria analysis techniques.

There is also a case for general, self-standing, central government guidance on risk communication.

1. Introduction

This Report is in response to an invitation by Defra to undertake a study on “social justice, public engagement and accountability: better decision-making in an environmental context”. The project Specification, attached at Appendix A, was drafted in terms of the requirements of the previous Environment Directorate General. Following structural changes in Defra in April 2007 these requirements are now distributed across a number of the new Groups.

The Specification sought advice on best practice in addressing social justice, guidance on the implications for policy development, a review of current Defra practice, and an analysis of a specific application and a presentation to a Whitehall audience. As work progressed it became clear that the breadth, depth and political character of the issues would be best covered in a single Report on the literature and practical application, together with a report on a short focus group study. These were followed by a presentation to and discussion with a Whitehall audience in September 2007.

Section 2 draws lessons from the literature, covering “environmental justice”, distributional impacts more generally, the wider social justice literature, the several philosophical and political science approaches to “fairness”, and the literature on openness and communication.

Section 3 addresses the application of social justice to Defra’s environmental policy development and implementation, under the headings of a set of practical themes. This draws on discussions with policy officials, to whom we are most grateful, across the spectrum of Defra’s environmental interests. This section includes observations on the three issues highlighted in the Specification, of compensation, of the engagement of stakeholders in decision making (which is covered under the slightly wider heading of “openness and participation”) and implications for procedures for appraisal (and, we assume, evaluation).

Section 4 concludes with a summary of some of the many significant themes and concepts that emerged in the course the study.

Appendix B is a report on two focus groups, convened to test public attitudes and the extent to which social justice issues in the environmental context are amenable to constructive public debate.

2. The Literature

This section first examines the literature on “environmental justice” and the more analytical and more economics-based literature on the distributional effects of environmental policy. It then considers the wider social justice literature, including an extensive discussion of the literature on “fairness”. The section concludes with a review of literature on openness, public participation and communication, in the context of environmental policy development and implementation.

2.1. Environmental Justice Literature

The concept of “environmental justice” emerged in the 1980s in the United States and the term is widely used to describe a political rather than a philosophical concept. For instance, Agyeman (2005) suggests that “environmental justice can be understood as a local, grassroots, or ‘bottom-up’ community reaction to external threats to the health of the community, which have been shown to disproportionately affect people of colour and low-income neighbourhoods”. Bullard (1996) notes that terms such as environmental racism, or environmental inequality (or environmental equity) are used interchangeably with environmental justice.

In December 2004 Defra held a “Research Priorities Workshop”, based on a report “Environment and Social Justice” (SDRN, 2004), produced by the Sustainable Development Research Network, a Defra-funded multidisciplinary initiative coordinated by the Policy Studies Institute. That report explains that “the key objective of the review was to summarise the evidence for environmental inequalities and injustice in the UK in relation to 21 topic areas identified as relevant by Defra”.

The report opened with a useful discussion of definitions, including the authors’ views (with which we sympathise) on the term environmental justice:

Whilst this review has been framed in terms of ‘environment and social justice’ many members of the SDRN Working Group preferred to use the term *environmental justice* because of its more common usage in the academic sphere and the widely recognised body of research relating to this. However, the term environmental justice itself remains a contested concept, meaning many things to different people (OPENspace, 2003). In light of this, some members of the SDRN Working Group raised concerns about the absence of any clear definitions with which to guide the review process.

After reviewing a range of definitions the authors’ interpretation of social justice in the environmental context was as follows.

It can be seen that ... these definitions explicitly recognise both the importance of fair treatment for deprived and excluded communities and the principles of access to information, legal redress and participation in decision-making for those communities. It was recommended by the Working Group that in the absence of a clear definition of environmental and social justice, the research review should use the basic concepts of disproportionate impact and unequal access. It is recognised that for some the concept of ‘environmental

justice' also encompasses issues of global and intergenerational equity and of justice *to* the environment (Burgess, 1995).

Ikeme (2003) reviews the looseness of language in environmental debate, commenting that "it will be difficult to find a concept that is as misused and misinterpreted as [those] of equity and environmental justice. ...the notions of equity, distributive justice, procedural justice and environmental justice are used inconsistently." He notes that other authors have similarly pointed out that "terms like 'fairness' are vague [and] behind calls for 'fairness', 'justice', and 'equity' are divergent conceptions of what is fair, just and equitable", and "the failure of environmental justice theorists to identify whether the goal is preventive, corrective, or compensatory".

The US Environmental Protection Agency (2006) provides a somewhat political and ambiguous rather than operational definition of environmental justice as follows, reflecting the American environmental justice movement focus on ethnic origin and income:

The fair treatment of all people regardless of race, color or national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and polices. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

In a wide ranging review, Kütting (2004) suggests that different treatments of environmental justice are united by a common theme: "a concern with the distribution of, and access to, resources, knowledge, power, representation and a clean, healthy living environment". What differs across different treatments, he suggests, is the extent to which different authors believe environmental justice requires uneven distributions to be mitigated.

The environmental justice banner is also waved in the UK. However the collection of papers on social justice from a Labour Party perspective edited by Pearce and Paxton (2005), quoted more fully in section 2.3 below, notes that while environmental issues have moved far up the political agenda over recent decades the UK environmental movement has had limited concern with the interaction between environmental objectives and social justice objectives. The papers discuss environmental and social justice concerns, but in a much wider sense than the environmental justice literature.

The one area in which environmental justice in its usual campaigning sense appears to have substance in the UK context is that of poor quality housing estates, where factors such as litter, graffiti and poor lighting are widely recognised as obstacles to social progress, as discussed (in the Scottish context) by Curtice *et al* (2005).

The environmental justice literature is thus dominated by egalitarian political concerns rather than analysis, except for analysis to identify inequalities and injustices to reinforce the political case. It makes only a limited contribution to the practical trade-off and public consultation problems of UK environmental policy development and implementation, even in cases where ethnic or poverty issues are important.

2.2. Other Literature on the Distributional Effects of Environmental Policies

The considerable economic research into the distributional effects of environmental policies has focused mainly on two empirical issues.

The first issue, starting from the perspective of individuals or individual households, is the relationship between individuals' economic and social characteristics (in EU studies, as in the environmental justice literature, this is usually with regard to income, but sometimes ethnic group) and the environmental quality that they "consume". Such investigations provide some indication of the likely distribution of the benefits of general policies to improve environmental quality, by showing where the current costs of environmental bads fall.

The second issue, starting from the perspective of particular environmental policies, is identification of the effects of policies on the overall distribution of income or well-being. Interest in this is often prompted by a concern that environmental policy instruments may achieve economic efficiency at the cost of regressive distributional effects.¹

Serret and Johnstone (2006) provides a useful review of work from both perspectives, with an emphasis on European rather than American research. This edited volume is based on an OECD workshop, "Distribution of Benefits and Costs of Environmental Policies", held in Paris in 2003. It contains two comprehensive reviews, by David Pearce and Bengt Kriström respectively, of what is currently known about "the distribution of environmental quality" and "the distribution of the financial effects of environmental policy".

Pearce finds that the balance of UK evidence supports the conclusion that the distribution of environmental bads is "biased towards the poor" in the sense that poorer people experience lower environmental quality and are more exposed to environmental risks (pp. 45-46). However, as he points out, this does not necessarily imply that *environmental policy* is biased against poorer people (p. 52). If individuals make location choices in markets, property prices will reflect local environmental quality. People whose willingness-to-pay for environmental quality is relatively low (either because their preferences put relatively low weight on environmental quality or because their incomes are low) will choose to live in areas of lower environmental quality, where for this reason property values are lower. This is not "unfair" (within ethical limits of minimum acceptable environmental standards), except insofar as the post tax and benefit income distribution is unfair.

Pearce also argues that, contrary to common belief, the income elasticity of willingness-to-pay (WTP) for environmental quality is less than one: suggesting that on the basis of the available evidence "numbers like 0.3–0.7 seem about right" (p. 57). In other words as people's income rises or falls their monetary valuation of environmental quality also rises or falls, but to a lesser extent. If this were so it would imply that environmental quality is a "necessity" rather than a "luxury" and the monetary value of an environmental improvement, as a percentage of income, is a higher for the poor than for the rich. Public spending on the improvement is likely in this case to redistribute welfare in favour of the poor, because the

¹ Regressive is used here and elsewhere in its usual technical sense, to describe impacts that, in monetary equivalent terms, fall as a proportion of income more heavily on the poor than on the rich.

poor are likely to pay no more than a similar proportion of their incomes in taxes to pay for it.² However, most of the evidence for this surprising conclusion comes from stated preference studies, and could be the result of a systematic bias in stated preferences, analogous with “scale insensitivity” effects.³ So we suggest that it should be treated with caution until it is supported by hedonic pricing data.⁴ (Most hedonic pricing studies so far have estimated models which *impose* an income elasticity of one, and so their findings do not provide information about the actual elasticity.)

Kriström focuses on the distribution of the non-environmental costs and benefits of environmental taxes, particularly taxes on carbon-based fuels. He finds the balance of evidence from a large number of studies supports the conclusion that carbon taxes tend to be regressive. Obviously, the overall effect of an environmental tax depends on how the revenues are used. Some commentators have argued that environmental taxes give a “double dividend”: they not only correct environmental externalities but also, by generating tax revenue, allow more distorting forms of taxation to be reduced. Kriström argues that, on the basis of available evidence, the taxes that would be reduced, such as taxes on labour or on value-added, are likely to be more progressive than the carbon tax that is partly replacing them. There are of course some uses of the revenue, such as equal lump sum payments to each individual, that would make the net effect of a carbon tax progressive, but these may be politically less credible.

Other chapters of Serret and Johnstone (2006) report specific studies of the kind that Pearce and Kriström review. For example, a chapter by Ronald Sutherland argues, on the basis of US evidence, that the imposition of energy efficiency standards for domestic appliances has a pro-rich – i.e. regressive – distributional effect. This is because energy-efficient appliances have higher capital costs and lower running costs, while low-income consumers, partly because they experience more credit rationing, tend to buy low capital cost appliances.

The work reported in the Serret and Johnstone volume focuses on the distribution of welfare between broadly-defined social groups, particularly income groups. Implicitly a *social welfare function* aggregates the welfares of individuals into a single index of “social welfare”; the objective of policy is to maximise this index. The presumption is that the social welfare function should give greater weight to marginal increases in income for individuals whose existing income levels are relatively low. Thus policy appraisal is seen as a form of cost-benefit analysis in which monetised benefits and costs are weighted differently for different income groups. Other things being equal, policies which redistribute income

² If the elasticity of WTP for a given environmental benefit (such as the preservation of a view or a reduction in noise) is 1, individuals at all levels of income are willing to pay the same *proportion* of their income for that benefit. In this case, and assuming the benefit is funded by a proportional tax on income, if poor people are net gainers from the combination of the benefit and the tax, then rich people are net beneficiaries too, and if poor people are net losers, so are rich people. In contrast, if the elasticity is less than 1, poor people may be net gainers, valuing the environmental benefit at more than they have paid for it, while rich people are net losers.

³ Scale insensitivity describes implausibly small changes in stated valuations in response to changes in the quantity of the benefit that is being valued. This effect has been found in many stated-preference studies.

⁴ When evaluations are required for goods that are not traded on markets, one standard approach is to use questionnaire methods to discover individuals’ preferences or valuations: this is the *stated preference* approach. Another standard method is to infer individuals’ valuations of non-marketed goods from the prices of related market goods. For example, valuations of noise nuisance can be inferred from observed relationships between property prices and noise levels. This is the *hedonic pricing* approach.

towards the relatively poor are to be preferred. Pearce concludes his review by recommending exactly this method of “factoring the distributional impacts into decision-making” (pp. 60-67). The same general approach is implicit in Kriström’s treatment of “revenue recycling”, which treats the revenue raised by environmental taxes as unencumbered government revenue, available to be used in whatever ways maximise social welfare.

However, while this income distribution perspective is clearly important for policy-makers, environmental policies often raise issue of fairness and justice which do not fit easily into such a conventional framework of social welfare maximisation. For example, the “polluter pays” and “beneficiary pays” principles are widely recognised, in appropriate contexts, as principles of fairness, but the sense in which these allocations are perceived as fair is independent of considerations of distribution *between income groups*. The concern is with distribution *between activities or benefits* and the parties associated with them. If some forms of greenhouse gas emissions are taxed much more heavily than others, those who are taxed more heavily may – and do – complain that they are bearing an unfair share of the costs of controlling emissions, irrespective of whether their average incomes happen to be high or low. In focus group discussions of fairness summarised in Appendix B income arose as a substantial issue in discussing the siting of a new incinerator, but not in any other context.

2.3. Wider Social Justice Literature

2.3.1. A Contemporary Perspective

Pearce and Paxton (2005), as mentioned above, provides a comprehensive overview of how social justice is perceived by many of those influencing current British Government thinking. The main focus is on issues such as constitutional reform, employment, education, childcare, pensions and migration, but it includes a chapter on “Sustainability and social justice” (Foley, Grayling and Dixon, 2005) that discusses social justice in the context of climate change, energy use and transport policy.

Foley, Grayling and Dixon open with the comment that “it has become more widely recognised that the poor tend to suffer disproportionately from environmental degradation”, but move immediately to a wider perspective, noting that there are potentially difficult trade-offs that are rarely explicitly spelt out. The authors’ central theme, in the spirit of the Stern Review (Stern, 2006), is that “environmental sustainability is compatible with social justice; indeed in many instances it is a necessary condition”. They present three principles:

- § *The precondition principle* – that any vital natural resources must be protected for the future, unless they can be renewed or replaced. In developing this they discuss in balanced terms responsibilities to future generations and to those living in other countries.
- § *The distributive principle* – that “environmental ‘goods’ and ‘bads’ should be distributed according to the principles of social justice. In some instances [including clean air, clean water, access to green space, and right of access to the countryside] this requires a minimum standard for all citizens, while in others it requires fair distribution.” In developing this they note that environmental goods that are not part of the social

minimum “can be distributed unequally so long as the distribution reflects relevant factors such as personal desert and personal choice”.⁵

- § *The just impact principle* – that government policy should “in so far as is possible, have a progressive impact”. In developing this they note, with approval, that “progressive policymakers are often cautious about environmental charges and taxes on social equity grounds.” They quote as an example “a tax on automobile production”, which might affect low skill employment more than high-skill services, “while those that would see most benefit (in terms of reduced congestion) would be wealthier people”.⁶

The first of these three principles is fairly uncontroversial, but leaves much scope for interpretation. The second is ambiguous, as “personal choice” may be defined as being before or after the constraints of personal income and wealth. The third is debatable: The impact of public policies across income groups needs to be known if it is material and sometimes amended case by case; but poor policy can follow if environmental objectives become subject to “principles” of progressivity, which is primarily the concern of other policy domains.

Pearce and Paxton also include an overview of “What is Social Justice?” (Miller, 2005) proposing four principles for social justice as follows. These principles, while fundamental and operationally meaningful, illustrate the need for a much finer level of detail in the development of practical guidelines for a specific area of policy, especially areas outside the policy domains, such as employment and education, that are the traditional policy focus of this literature.⁷

- § *equal citizenship*, understood as an equal set of basic rights, including the means to exercise these rights effectively;
- § *the social minimum* of resources that allow all citizens to meet essential needs and live a secure and dignified life in today’s society;
- § *equality of opportunity*, so that life chances depend only on motivation and aptitude and not on factors such as class, gender, or ethnicity; and
- § *fair distribution*, such that resources that do not form part of equal citizenship or the social minimum may be distributed unequally, but that distribution must reflect relevant factors such as personal desert and personal choice.

Miller comments that, while these principles might be widely accepted, and seem at first glance quite undemanding, “a society that genuinely fulfilled these four principles would look quite different from the one we have today”.

⁵ This discussion includes reference (but with no suggested policy implication) to “a clear relationship between risk of flooding and deprivation in England, with eight times more people in the most deprived deciles living in a tidal floodplain than in the least deprived decile”.

⁶ The slightly off beat economics here is paralleled by a quixotic scientific reference to “poisonous nitrous dioxide gas”.

⁷ In environmental policy such heavily political aspects of social justice do sometimes arise, as for example with the civil liberties implication so using “existing databases” for the identification of individuals in operating a regime of personal carbon allowances. Such issues are beyond the scope of this study.

The same author published over fifteen years ago (Miller, 1991) a useful review of “recent theories of social justice”. This reviews and compares books by several then recent authors⁸ and, while pitched at an academic audience, draws out the several concepts, in particular desert and need, and how they might be interpreted in differing applications. Miller concludes that

It seems safe to conclude that theories of justice will continue to proliferate, but there will be fewer that are both comprehensive and simple. Either they will involve the application of a single principle to a particular share of distribution (the household, the economy, international relations, etc.) or else they will be more comprehensive but pluralistic in their content.

Other relevant papers in Pearce and Paxton include a balanced critique by Burchardt (2005) of the “happiness” literature that has developed in recent years in economics and other social sciences. This includes a note of the importance of “active participation and autonomy”. Also relevant is an authoritative, contemporary review of social justice and rights, including the Human Rights Act, from the perspective of law and political philosophy (Plant, 2005).

Fairness, justice and equity are separately explored by Ikeme (2003) by “tracing their philosophical origins and historic usage in the environmental literature”, discussing in particular, in accessible terms, deontological (rights-based) and consequentialist (goal-based) philosophies, environmental justice and equity, and what he presents as five approaches in the literature to “equitable distribution” summarised as the “no envy” principle; the “just deserts” concept; the total equality approach; meritocracy; and minimum standards or basic need. This further illustrates how there can be no universally accepted definition of what is “fair”. But it does not invalidate the concept. Much of the social (and environmental) justice literature is concerned with “fairness” and it is a useful term to use as a basis for public and official debate.

2.3.2. The Literature on Fairness

In economics, the main tradition for normative analysis of public policy is a development of nineteenth-century (or “classical”) utilitarianism. In classical utilitarianism, the proper objective of public policy is to maximise the sum total of happiness (construed as the net balance of pleasure over pain) for society as a whole. Over the first half of the twentieth century, this approach gradually mutated into one in which each individual’s “utility” or “welfare” is measured by his or her preferences, and inter-personal comparisons of utility are interpreted as value judgements. This idea can be pursued in two different ways, each of which has been widely used by economists and has been understood as providing the normative underpinning for cost-benefit analysis (CBA). In practice, the two approaches generate very similar forms of analysis, and economists do not always clearly distinguish between them.

The first approach is to take the objective of CBA to be the maximisation of a social welfare function. The social welfare function expresses “social” judgements about the distribution of welfare between individuals. Typically, to adjust for differences in income, these judgements

⁸ T. Campbell, B. Barry, K. E. Soltan, G. Sher, W. Sadurski, M. Waltzer, A. MacIntyre, I. M. Kirzner, and S. M. Okin.

are represented by “distributional weights” applied to gains and losses (measured in money units) accruing to individuals in different income groups.⁹ Pearce’s proposal, referred to in Section 2.2 above, is of this form. This approach can be reconciled with classical utilitarianism if one treats utilitarianism as the source of the relevant social value judgements. The assumption of diminishing marginal utility of income then provides a justification for a system of distributional weights which decline as relative income increases. In this general approach, “fairness” is interpreted as the use of such distributional weights.

The second approach draws a sharp distinction between “economic efficiency” and “distribution”. The least ambiguous definition of economic efficiency is in terms of *Pareto efficiency*: an allocation of resources is Pareto-efficient if there is no feasible reallocation which would make some individuals better-off (valued with respect to their own preferences) and none worse-off. A more practical, but also more controversial, definition uses the *Kaldor-Hicks test* (or *potential Pareto improvement criterion*), stipulating that there is an increase in economic efficiency whenever a policy reallocates resources in such a way that the gainers *could* fully compensate the losers while remaining net gainers – even if compensation does not in fact take place.

CBA (without distributional weights) is then interpreted as the application of the Kaldor-Hicks test, to provide information about the effects of policies on economic efficiency. Distributional issues (and their implications for fairness) are seen as matters for a different stage of the policy-making process. (Some advocates of this approach argue even for a full separation of functions in government, so departments that use CBA should be concerned only with the promotion of economic efficiency, leaving distributional issues to be dealt with through the tax and social insurance system.) In this approach, fairness appears only in the form of procedural justice – principles of due process, requiring that the principles of CBA are applied even-handedly and transparently.

In political philosophy, John Rawls’s (1971) *Theory of Justice* initiated a reaction against these utilitarian ideas that has continued to the present day. His account of “justice as fairness” has provided a point of reference for much subsequent work in political philosophy and has had considerable influence in economics.

In the Rawlsian framework, a situation is fair if the outcome maximises the well-being of the *worst off* members of society, where well-being is understood not as a subjective state but as a function of “primary goods”, such as health, material resources and rights, which are useful in the pursuit of life-plans in general, irrespective of the “conception of the good” that an individual seeks to pursue. Thus, primary goods are things that everyone can be presumed to want. Rawls derives his principles of justice¹⁰ by placing individuals behind a “veil of

⁹ Welfare weightings by income may be subjective value judgements or, as in the UK Treasury Green Book, based on empirical estimates of the extent to which the welfare provided by an extra unit of income increases as the level of income falls. In many areas of public policy the issue is resolved simply by giving the same weight to impacts such as health and safety to everyone regardless of income, even though it is known that richer individuals would be willing to pay more for the benefits in question. It is debatable whether this is or is not good CBA practice.

¹⁰ Specifically these are: I Each person has an equal right to a fully adequate scheme of equal basic liberties which is compatible with a similar scheme of liberties for all; and II Social and economic inequalities are to satisfy two conditions: first, they must be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they must be to the greatest benefit of the least advantaged members of society. The first of

ignorance” in an “original position” where they cannot discriminate to their own advantage since they do not yet know who they are: hence the idea of justice *as fairness*.

This has features in common with Kant's categorical imperative: “Act only according to that maxim by which you can at the same time will that it would become a universal law”.¹¹ On some interpretations, this requires the individual to behave to others in such a way that he or she would like to be treated by others, as might be expected behind Rawls’ veil of ignorance. However, although Rawls saw himself as Kantian, scholars would argue that Kant’s principle is too abstract to imply this Golden Rule. Kant's ethics anyway stop with his categorical imperative – so long as you act according to the categorical imperative, your actions are in some sense ethical. In contrast Rawls uses the original position to derive principles of justice. Rawls does not expect people to put themselves in the original position before acting. The original position is a construct to show that the two principles of justice can be justified on the grounds of fairness. Justice in a Rawlsian world requires only adherence to the principles of justice.¹²

Two salient features of Rawls’s theory of justice, both of which distinguish it from utilitarianism, are its *egalitarianism* (represented by the principle of maximising the well-being of the worst-off) and its focus on *opportunities* rather than outcomes (represented by its use of primary goods as the measurement of well-being, and by its not taking any normative position with respect to the different ways in which individuals might choose to use their primary goods). Much subsequent theorising about justice has worked within the framework set by these two features of Rawls’s theory, while questioning whether primary goods are the most appropriate metric for assessing well-being or opportunity.

A wide range of other metrics has been proposed. Amartya Sen (1985, 1992) defines a concept of “functioning” which is intermediate between primary goods on the one hand and consumption goods or preference on the other. For example, “being adequately warm” is a functioning. It is a state of being that everyone can be presumed to have reason to value. It is distinct from the primary good of income (which among other things is a means to warmth), from fuel as a commodity (a more direct means to warmth), and from the subjective state of desiring (or having a preference for) warmth. Sen defines a person’s *capability* as the set of alternative arrays of functionings that are available, and proposes that equality should be sought in the domain of capability.

Ronald Dworkin (1981) develops the idea of equality of *resources*, with reasoning similar to Rawls in construction and conclusions. Dworkin emphasises a distinction that is arguably implicit in Rawls’s theory, between “brute luck” and “option luck”. His theory is built on two premises: that individuals’ initial endowments of natural talents and material resources are morally arbitrary, and that individuals are responsible for their own decisions about how to use their talents and resources. Inequalities in outcomes that result from inequalities of talents or from other vagaries of nature, or from inequality of access to resources, are the

these is sometimes referred to as the Equal Liberty Principle. The second part of the second is called the Difference Principle.

¹¹ This is the exact wording in one of the standard translations of *Foundations of the Metaphysics of Morals*, 1785.

¹² Indeed, one of Nozick's (1974) main criticisms of Rawls is that his theory is concerned with final outcomes (i.e. consequentialist) as opposed to how they are reached. This is where Kant differs from Rawls, since Kant tells us how to do things, not what final outcomes should be reached. However the issue of whether Rawls was or was not a consequentialist (i.e. goal-based) philosopher is debated.

product of brute luck, and may warrant some compensation by the rest of society, if only in forms such as health or social services to help alleviate the outcome. In contrast, inequalities which result from the different choices individuals make, starting from initial equality of talents and resources, do not qualify for such compensation: this is option luck.

Insurance plays an important part in Dworkin's theory. An individual who chooses not to insure against a risk, when insurance is available, is responsible for dealing with the consequences if, in the event, the risk materialises. In Dworkin's version of the original position, individuals behind the veil of ignorance are allowed to negotiate insurance contracts (for example, insuring against the prospect that their natural talents will have low market value). Redistributive taxation in the real world is regarded as justified if it replicates insurance contracts that rational individuals would have made behind the veil of ignorance, but which are unavailable in the real world.

Further developments of the distinction between brute luck and option luck have been made by G. A. Cohen (1989), Richard Arneson (1989), and John Roemer (1998). All three of these writers are concerned with equalising opportunity, while not allowing compensation for the effects of individuals' own choices. Debate centres on the specification of the distinction between what a person is and is not responsible for. (For example, Roemer takes account of the effects of upbringing on a person's preferences, with the implication that a smoker who contracts lung cancer is more responsible for the consequences if his upbringing was middle-class than if it was working-class.)

Theories of justice in the utilitarian or Rawlsian traditions make the question "What is a just society?" prior to the distribution of property rights or entitlements. Thus, deciding what the distribution of entitlements *ought* to be is by construction, in these theories, one of the first questions for a theory of justice to address. But there is also a way of thinking about justice which takes entitlements as given. In everyday circumstances this latter concept of fairness is normally used almost automatically, with most activity in the market and in voluntary organisations structured by these kinds of fairness principles. That is, justice in the sense of "What should the distribution of entitlements be?" is put on hold, and mutually-beneficial transactions proceed without the parties asking distributional questions.

For example, if A were selling his car to a richer buyer B, it would normally be out of place for A to say to B "I'm poor; you're rich; so you should pay me more than the market price".¹³ A utilitarian or Rawlsian theorist might say that market transactions can be perceived as not raising distributional questions only if they take place in an economic regime in which basic entitlements have *already* been distributed according to some normatively acceptable principle, such as the maximisation of total utility or maximising the well-being of the least well-off. But there are other theories of justice which do not depend on such a proviso.

One such theory can be found in the work of Friedrich Hayek (1948, 1976), who claims that *social* justice is a "mirage". Hayek argues that a market economy relies on a "division of knowledge". The workings of the market allow the coordinated use of information that is divided among many independent agents. The motive power of markets comes from each

¹³ The "fair trade" movement, whatever its ultimate impact, is however an example of the normal free market premise being rejected, in favour of an explicit appeal to distributive justice.

agent's pursuit of his own interests in the light of his own beliefs, in an institution that is structured so that each agent is rewarded according to the value that his actions have for others (given their interests and beliefs). Since no individual or planning agency has access to the whole stock of knowledge that the market coordinates, it is not possible to predict the outcomes of market processes prior to their taking place. Thus, a functioning market economy inevitably generates distributions of income that are unfair when viewed in the perspective of conventional theories of social justice. Full compensation for such unfairness would disable the market. Sugden (2004) develops this Hayekian argument as a critique of the idea that comprehensive justice requires full compensation for the effects of brute luck: if we want the wealth-creating benefits of the market, we have to "live with unfairness".

Another theory of this kind, and probably the best-known in current political philosophy, is Robert Nozick's (1974) *entitlement theory*. (This is not a theory of fairness, properly speaking, but it *is* a theory of justice.) According to this theory, individuals are entitled to their own talents and to whatever share of natural resources they possess, as long as it has been justly acquired. This occurs if the individual has acquired the resource either by mixing his or her labour with it (if the resource was not previously owned and was therefore common property), or the resource has been transferred to the individual by another, who in turn has acquired it in either of these two ways. Whatever people choose to do with their own entitlements, individually or collectively, is deemed to be just, provided the entitlements of others are not infringed. Nozick's libertarianism is too uncompromising for his theory to have been put to direct use in policy evaluation. However, his theory represents in extreme form a more general and more widely-held position, which assesses fairness in relation to specifications of entitlements that are taken as given, for the purposes at hand.

The latter position is represented in a form that is more viable in terms of practical politics, and more related to conventional economic analysis, in one of the founding texts of what has come to be called "public choice theory": James Buchanan and Gordon Tullock's (1962) *Calculus of Consent*. Much of Buchanan and Tullock's work is concerned with positive analysis of what *is* (in particular the practical realities of government) rather than normative analysis of what ought to be. However, the underlying normative approach is *contractarian*. That is, the aim is to find general rules for collective choice to which, in principle, everyone can consent.

In the spirit of this approach, public policy decisions are understood as collective actions. Ideally, such an action should take place with the consent of *every* individual, after compensation has been negotiated for those who would otherwise be losers. This approach has roots in Knut Wicksell's (1896) unanimity rule and its adaptation by Erik Lindahl (1919), whereby in principle the cost of a public good, where the total willingness-to-pay of the beneficiaries is greater than its cost, can be divided fairly between the beneficiaries, in such a way that no one is a net loser.¹⁴

¹⁴ With "Lindahl pricing" users of a non-rival good pay in proportion to the marginal value of the good to them. One practical problem is that identification of Lindahl prices requires knowledge of users' demand functions for the good and for their other spending, but around 1970 the public choice literature led to ingenious ways of obtaining such information from potential users (or a group of users) without perverse incentives (Clarke, 1980). The practical difficulties appear however still to have prevented, so far, such a procedure being applied in practice.

In this approach, government is treated not as a benevolent source of centralised power, but as just another institution, alongside those of the market and the voluntary sector, through which individuals act collectively for mutual benefit. The ideal for decision-making about public goods is a rule of unanimity, with beneficiaries paying fairly for the public good benefits they receive. Departures from unanimity are required only for reasons of practicality (in particular, to avoid the frictions of bargaining that occur when any individual can try to hold everyone else to ransom – the “hold-out problem”). One crucial characteristic of this approach is the need to define the status quo of entitlements from which, using the rule of unanimity, changes are assessed. So “legitimate expectations”, as an element of these entitlements, become critical for fairness judgements.

Relevant to these arguments is the work of Ronald Coase (in particular Coase, 1960). The famous “Coase Theorem” is sometimes presented as if it simply dismissed the importance of how original entitlements are distributed, so long as they are clearly defined. Coase did however establish that the previous usual assumption that externalities were best handled by “Pigovian” taxes¹⁵ was an oversimplification. He showed that in the absence of transactions costs the clear assignment of property rights would generally lead to efficient outcomes with no government intervention. These arguments no doubt reinforced the development of public choice theory. However Coase’s main concerns were with the constraints of the real world, where taking polluters to court or negotiating transactions with large and disparate groups of polluters and pollutees are often not feasible. The final paragraph of his most famous paper carries lessons for today, where legitimate concerns are sometime expressed about the extent to which government regulators may not always recognise the importance of transactions costs:

... , we have to bear in mind that a change in the existing system which will lead to an improvement in some decisions may well lead to a worsening of others. Furthermore we have to take into account the costs involved in operating the various social arrangements (whether it be the working of a market or of a government department), as well as the costs involved in moving to a new system. In devising and choosing between social arrangements we should have regard for the total effect. This, above all, is the change in approach which I am advocating.

In UK government, as in most developed nations, the usual approach is to presuppose that it is the job of *government* to pursue justice (in the distributional sense), and that policy development is about judging what is best for society, all things considered, from this standpoint. But even in this case existing entitlements are usually taken as implicit constraints. This was noted above in the private market context of selling a car. It also applies to commonly accepted principles such as the government’s not being allowed to take an individual’s property without due compensation, although it can impose general taxes. Such principles of “horizontal equity” used to be discussed in public finance textbooks, but now, curiously, they do not seem to be treated explicitly in economics.

¹⁵ That is by what would now in the environmental context be called “green taxes”, at a rate ideally equal to the cost imposed on society by extra unit of the polluting emission or other externality, such as noise or extra landfill waste.

2.4. Literature on Openness and Communication

Openness, public participation and communication of information are often held to be a central component of social justice, and of modern democratic governance in general. Principle 10 of the Rio Declaration (1992) established public access to information, participation in decision-making, and access to justice as key principles of environmental governance. It has been promoted by *Partnership for Principle 10*¹⁶ (PP10) and *The Access Initiative*,¹⁷ which have worked to bring together governments, international organizations, and civil society groups. Principle 10 has also been enshrined in the Aarhus Convention (1998)¹⁸ and related, legally binding daughter conventions, such as the Kiev Protocol on public access to information on pollutant release.¹⁹ At the EU level, European White Papers on Governance²⁰ in 2001 and Communication Policy²¹ in 2006 and other related proposals²² have firmly embedded ideas of openness, participation and accountability within the ways that powers are exercised at the European level.

Such ideas have been actively promoted in the UK by the Royal Commission on Environmental Pollution (1998) and increasingly put into practice across regulatory domains and by the corporate sector (Owens, 2004; Petts, 2001; Rydin, 2003; Gouldson *et al*, 2007). Novel high profile innovations have included the recent nationwide debate on genetically modified foods, notably in the GM Nation debate in 2003 and in and the monthly open Board meetings held by the UK Food Standards Agency.

While openness and communication are held to be central to social justice, public responses to risk can be shaped by a number of psychological, social and institutional factors, which need to be taken into account to ensure effective communication of risk information (e.g. Fischhoff *et al* 1978; Kasperson *et al* 1988; Slovic, 2000; 2003; Pidgeon *et al* 2003). This is relevant to environmental issues in terms both of public acceptability of government policy and of the need, in terms of social justice, for people to understand and make choices about the risks they face (especially when they hold unfounded expectations about the role of government).

¹⁶ <http://www.pp10.org/>

¹⁷ <http://www.accessinitiative.org/>

¹⁸ UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (1998). The convention enshrines three key procedural rights, that are regarded as a 'floor' rather than a 'ceiling': i) securing effective access to environmental information; (ii) improving public participation in decisions relating to the environment and (iii) ensuring that there is a review procedure for any decisions, acts or omissions under the convention or in relation to other national environmental law.

¹⁹ The Kiev Protocol on Pollutant Release and Transfer Registers (2003) is a legally binding international instrument that aims to enhance public access to information through the establishment of nationwide pollutant release and transfer registers (PRTRs).

²⁰ http://ec.europa.eu/governance/index_en.htm

²¹ http://ec.europa.eu/communication_white_paper/doc/white_paper_en.pdf

²² See for example *The Commission's contribution to the period of reflection and beyond: Plan-D for Democracy, Dialogue and Debate* http://eur-lex.europa.eu/LexUriServ/site/en/com/2005/com2005_0494en01.pdf and *Towards a reinforced culture of consultation and dialogue - General principles and minimum standards for consultation of interested parties by the Commission.* (http://ec.europa.eu/governance/docs/comm_standards_en.pdf)

3. Social Justice Issues in Environmental Policy

3.1. Introduction

This section turns from the literature to practical application. It is structured in terms of themes, namely:

- § income distribution and reasonable expectations;
- § the principles of polluter pays beneficiary pays;
- § setting of standards;
- § proportionality;
- § openness and participation;
- § (briefly) international and intergenerational justice; and
- § sustainable development.

Another theme that arose in discussion with the Department, but offering too little to be developed here, is that of institutional coordination. Institutional coordination issues are widespread in environmental policy and it would serve the public interest if, where they seriously constrain good policy, they were persistently pursued. We were for example told on more than one occasion that the rules of local government financing prevented some promising way forward, with the implication that this was not something ever worth challenging.

The discussion of these themes draws on the following areas of environmental policy, all except the last being on the basis of meetings with relevant officials.

- § Flood and coastal erosion risk management;
- § Waste;
- § Local environmental quality;
- § Individual carbon allowances;
- § Fuel poverty;
- § Intergenerational and international equity in climate change policy;
- § Water Framework Directive.

In the environmental context social justice is predominantly about the fair distribution of costs and benefits, also extending to the fair distribution of information and of participation in policy debate. The issues arise from distributional questions across a very wide range of categories of households, including distribution by income (or other characteristic), between polluters and pollutees, between beneficiaries of local environmental benefits and national taxpayers as a whole, between taxpayers and those adversely affected by changes in policy or environmental change, and between the public interest and political / institutional interests.

These are important, but they generally avoid very severe social justice issues of the kind that can arise in other fields of policy.²³

3.2. Income Distribution and Reasonable Expectations

This section addresses problems of fairness that arise at the interface of market and public policy decision-making.

As a starting point, consider the evidence (referred to in Section 2.2 above) that the environmental quality that people experience is positively correlated with their income. Is this evidence of injustice, as some writers in the environmental justice literature claim?

These arguments depend partly upon whether the issue is one of long term equilibrium (and whether that should be changed) or a new environmental hazard.

First, consider an urban area in which environmental pollution is geographically concentrated in certain localities close to some heavy industry – say, a steelworks. The steelworks has been in operation for many years with roughly constant emissions. Then, other things being equal, we should expect the market value of residential property to be lower in the more polluted locations. The lower house prices and lower rents of these locations will tend to attract lower-income households, for the same reason that poorer people are more likely to drive less expensive cars than richer people. There is no evident injustice here beyond that of income inequality. The validity of any claim of a special *environmental* injustice, with its appeal for government action, depends upon the relevant environmental goods having some special status, such that equality of access, or at least the provision of minimum standards, *for these goods* has special significance. (Analogously, one might think that there should be legal minimum safety standards for cars, even in respect of factors which affect only the safety of the car’s occupants. But, given that minimum standards have been satisfied, there seems to be no specific injustice if some people have better-quality cars than others.)

Now suppose that a *new* pollution-generating facility, say an incinerator, has to be built somewhere in the same urban area. Suppose that the location decision is made by CBA, according to the Kaldor-Hicks test, but with no actual compensation being paid. The CBA recommends locating the incinerator in an area where land prices are relatively low – which is one where most residents are poor – rather than in an expensive area where people are more prosperous (even though, let us say, fewer people would be affected in the latter, because population densities there are lower). An uncompensated loss is thus imposed on owners of property in the poor area. (Notice that, if property is rented at a market-determined price, rents will adjust over time in response to changes in the geographical distribution of pollution, providing partial compensation to property *occupiers*.) Here there seem to be stronger grounds for claiming injustice. At least in part, this claim rests on the fact that

²³ Such as extreme cases where innocent people are killed by the authorities or, on the basis of misinterpreted medical evidence, are imprisoned for killing their children or have their children taken from them; or broader areas such as the current debate about the extent to which social housing should be allocated on the basis of “need” (i.e. homelessness) as opposed to “entitlement” (e.g. length of residence) and about other aspects of the benefits system; and many cases, such as “the Guildford four”, of justice compromised by the pressures on the authorities in times of conflict.

property owners' *reasonable expectations* have been undermined: they had no reason to expect the value of their property to be damaged by this development.

But consider yet another case. Relative prices of different types of houses and of houses in different locations are subject to large changes over time, as a result of changes in the fashionableness of locations, changes in household composition, different rates of regional economic growth, and so on. Some people gain greatly from these changes, others lose. Often, people had no reason *ex ante* to expect the price changes that in fact occurred. (Indeed, in a fully competitive asset market, the theoretical prediction is that prices follow a random walk, with all available information relevant to the prediction of future prices capitalised in current prices.) Are these gains and losses unjust? This seems to be an example of the kind of unfairness that one has to live with in a market economy (compare section 2.4 above). There is room for debate about the proper tax treatment of capital gains relative to labour income, but it is not possible to have a genuine housing market without there being gains and losses that are unfair in the "brute luck" sense.

If the incinerator case is different, it is because in that case uncompensated losses are not the unavoidable result of the unplanned workings of a free market; they are the result of deliberate public decisions. If public decisions are taken on the basis of CBA, the overall effect of the policies approved is to increase economic efficiency. However if the beneficiaries of those decisions are not required to pay for the benefits they receive, and if those who bear the costs are not compensated, public decision-making is transferring income between individuals in an essentially arbitrary fashion. Such transfers raise issues of horizontal equity. These are fundamentally different from the vertical equity issues that CBA can handle, at least in principle, by using income distributional weights.

In many areas of public spending uncompensated losses are accepted on the basis of swings and roundabouts. Thus individuals and households vary greatly in the benefits they enjoy from public services such as education, social services, health care, law and order, and culture media and sport, but people are generally willing to pay taxes for such services on the grounds that they may use them themselves at some stage in their lives or, for example in health care, they accept it as fair in principle for the healthy to support the sick. Environmental impacts are unusual in that they often entail substantial costs concentrated on relatively small groups of people, as for example with aircraft and other transport noise, contaminated land, or flood and coastal erosion risks. Environmental policy may also increasingly involve proposals for new charging regimes, as for example with domestic waste, that may create significant losers. In these contexts the popular, and we would say reasonable concept of fairness, relies heavily on the concept of "reasonable expectations".

The concept also arose spontaneously as an important consideration in the focus group discussions, summarised in Appendix B, on aircraft noise and on coastal erosion.

Is it possible for environmental policy to be conducted in a way that does not frustrate people's reasonable expectations? Or at least, can it be conducted so that reasonable expectations are frustrated only because of unavoidable unpredictability (as in the case of the frustration of expectations about market prices)?

One type of policy instrument which has this property (to some extent following Coase) is the creation of property rights and markets in what previously were externalities, via tradable

permits. Depending on how initial allocations are made, and on how they are phased in, there is likely to be some frustration of expectations at the time such a scheme is introduced, but once the scheme is bedded in, government can take the same hands-off stance that it takes towards other asset markets.

This is illustrated by recent changes in policy towards the clean-up of contaminated land. The imposition in 2000 of stricter clean-up obligations on landowners can be understood as a change in the specification of property rights in land. The transition stage has imposed uncompensated losses, not reasonably foreseeable, on the owners of some properties (typically at sites formerly used for industrial processes). But once the legislation is in place, expectations adjust to it. Individuals who bought property after 2000 can be expected to have taken account of contamination possibilities when making their searches. From 2000, house-builders have indemnified buyers against the financial consequences of contamination risks – an example of how identifiable risks can be dealt with by private insurance.

Other, closely related, types of policy instrument implement the “polluter pays” or the “beneficiary pays” principles, as discussed in Section 3.3 below.

Before turning to these however a diversion is needed on one environmental policy that may appear to be expressly driven by concerns about income, namely that of “fuel poverty”. At first glance this does not fit well with the conclusion above that poverty of environmental goods seems generally to be just one aspect of low income. It is easy to see that local environmental quality is sometimes one aspect of social deprivation in general, justifying action by many local agencies to restore civil society in areas where it is failing. But fuel poverty does not fall under this heading and it would seem anomalous for the government to subsidise the relief of fuel poverty in preference to other specific poverties that may be associated with low income, such as access to good quality food.²⁴

There may however be a good evidence-based rationale. It may be for example that a policy of support for investment in energy saving in the homes of poor owner occupiers, who are deterred by the transactions costs as well as the financial costs of such work, may be a cost-effective contribution to the country’s emissions targets. Also low cost information provision, for example about the costs of pre-payment metering, or very simple thermometer strips indicating zones of danger or overheating may offer relatively high social benefits. The policy may also have high social value in reducing political opposition to rises in retail energy prices. As with much public policy, the origins, rationale and operational objectives reflect a mixture of presentational, redistributive and efficiency concerns.²⁵

The income distributional effects of any policy or policy proposal need to be estimated and if they are seriously regressive modification will often, sensibly, be sought. Important in some environmental policies is the need to offset the effects of lower public pressures for change

²⁴ The Scottish Health Executive Department funds Community Food and Health (Scotland) (<http://www.communityfoodandhealth.org.uk/index.php>), which supports initiatives in low-income communities to help people take up a healthy diet, including a small grants Scheme. The Food Standards Agency in England have only undertaken research on links between diet and low income, with doubts apparently about which arm of government would be responsible for stronger initiatives in this field.

²⁵ There is now a statutory obligation on Government to take action ‘as far as reasonably practicable’ to eradicate fuel poverty (stemming from the Warm Homes and Energy Conservation Act 2000).

from poorer households, and sometimes lower expectations. However the strongly egalitarian ethos of “environmental justice” tends to overlook the need in any dynamic society to accept a considerable amount of “brute luck”.

3.3. The Principles of Polluter Pays and of Beneficiary Pays

3.3.1. Polluter payment

Consider any environmental bad – say aircraft noise – that is an external effect of some commercial activity. Suppose the government introduces a tax on aircraft noise, and is credibly committed to a rule by which the rate of tax will be adjusted over time to maintain equality with the marginal disbenefit of aircraft noise. Then the position of aircraft operators in relation to the tax is essentially the same as that of any firm in relation to an input whose price is subject to change. Changes in the tax rate, if required by the application of the rule, would be seen as having the same normative status as changes in market prices.

However, if the proceeds of the tax are treated as unencumbered income to the government, people who suffer the disbenefit of aircraft noise are still subject to uncompensated harms, not mediated through markets – even though the tax system induces aircraft operators to take economically efficient decisions. The “polluter pays” principle, in this case, requires for social justice, and for maximising efficiency, not just that the polluter pays *someone*, but that the polluter pays *the pollutee*.

In popular discourse, the polluter pays principle is sometimes treated as a principle of *punishment*, the payments to be made by polluters being construed as a fine for misbehaviour. A related concept is that these payments are a “sin tax” – that is, a tax on an activity which, while not illegal, is sufficiently the object of moral disapproval that those who engage in it should not complain about paying unusually high rates of taxation (smoking, drinking and gambling being classic examples). It may be tempting for governments to take advantage of popular environmental sentiment to gain political acceptability for a new category of such revenue-raising or redistributive sin taxes.²⁶ But this is not how the polluter pays principle is understood in economics; nor how it should be applied in the public interest.

Rather, the principle is related to Coase’s approach to the analysis of externalities, discussed in section 2.4 above. In the absence of transaction costs, economic efficiency can be achieved by defining and enforcing property rights in externalities and allowing these to be traded in a “Coaseian” market. How these rights are assigned does not affect the efficiency properties of such a policy, but different assignments have different distributional consequences. For example, in the case of aircraft noise, one might imagine assigning a fixed supply of noise permits to aircraft operators; communities of house-owners who wanted a quiet environment would then have to buy up the corresponding permits. Alternatively, tradable entitlements to quietness could be assigned to house-owners, which aircraft operators would then have to buy. In this context, the polluter pays principle favours the second option: rights should initially be assigned to potential pollutees, not to potential polluters. In

²⁶ A current example being the fashion of imposing very high parking charges on cars with relatively high rates of fuel consumption.

either regime, however, payments are made *between* polluters and pollutees, not between polluters and the state.

As a moment's thought about this example makes clear, Coaseian markets are likely to be frustrated by transaction costs. However, the theoretical concept of a smoothly-functioning market in externalities can still serve as a benchmark: public policy can be designed so as to simulate as far as possible the workings of a Coaseian market.

In the case of aircraft noise, the long term ideal might be a system by which aircraft operators are charged for the noise they create, and those payments are transferred to affected households. This can be interpreted as a simulation of a Coaseian market in which property rights are assigned in accordance with the polluter pays principle. In such a regime, any change in aircraft operations automatically activates corresponding compensation payments, limiting the degree to which reasonable expectations are frustrated. There would also be political advantages. This policy regime would create an interest group in support of the environmental tax, increasing its political sustainability. It would also weaken NIMBY lobbies against genuinely efficient developments which have negative environmental effects.

However the design of institutions to simulate Coaseian markets is not straightforward. One problem is illustrated by the following example. Suppose there is a long-established flight path over agricultural land. The costs imposed by aircraft noise on agricultural land are low, and the compensation payments levied on airlines are correspondingly small. But if the landowner obtains planning permission to build a housing estate on the land, should the charges levied on airlines increase so as to compensate residents of the new housing? Since expected compensation payments will be capitalised in property values, increasing the charges on airlines would merely increase the windfall capital gain to the landowner resulting from planning permission. Such a compensation regime would also remove the incentive for noise-sensitive activities (such as housing) to be located away from noise sources. In an ideal Coaseian market, each agent can take the price of pollution permits as given, independent of its own decisions. This condition is not satisfied if changes in land-use induce changes in compensation payments.

Assuming that these design problems can be solved, much would depend upon the credibility of the government's commitment to a Coaseian policy regime. Transitional arrangements would also entail compromises. Under present regimes the impact of noise will be mainly on property prices, so that long standing property owners have lost wealth, but new property owners can reasonably be assumed to have taken the noise impact into account in agreeing to a price and merit no compensation, unless the noise unexpectedly worsens. Immediate introduction of the long term ideal would bring them a windfall gain.

The origins of the polluter pays principle as a prominent element in public policy lies with the OECD (OECD, 1974, 1969), in the somewhat simpler application of recovery of the costs of rectifying damage to the natural environment. The question of who receives the payment in this case is trivial: it is used to pay for the clean up. It is currently being negotiated in the

same context in the European Union in the development of the proposed Environmental Liability Directive.²⁷

As a final word on the polluter pays principle it should be noted that emissions trading schemes, including the EU ETS, do not generally accord with the principle. It is politically expedient to allocate the stock of emissions permits to the industry, so the participants face a marginal cost of increasing and a marginal benefit from decreasing their own emissions, but no net payment is made by the industry for the damage its emissions impose. The prices of its outputs are therefore unlikely to internalise these external costs.

3.3.2. Beneficiary payment

The “beneficiary pays” principle, as illustrated above in the example of house owners potentially buying a quiet environment, is closely related to “polluter pays”.

An essential idea here is the “public choice” approach, introduced in Section 2.4. In this approach environmental benefits are supplied if and when the total willingness-to-pay of the beneficiaries exceeds the costs of supply (i.e. when the Kaldor-Hicks test is satisfied), but the costs are charged to the beneficiaries.

If the goods being supplied are non-excludable (i.e. people cannot be prevented from enjoying them), and if the number of beneficiaries is large, voluntary provision is not normally feasible, and so applying the principle requires collective decision-making and compulsory charging. However, it is still possible to look for methods and rates of charging such that, as far as possible, no one is a net loser from the supply and funding of the good. As in the case of policies which simulate Coasean markets (as discussed in Section 3.3.1), the beneficiary pays approach sees the role of government as being to facilitate mutually-beneficial quasi-market transactions in the presence of market imperfections and transaction costs. If, before the introduction of such a policy regime, decisions about the public good supply have been taken by CBA and there has been no charge for supply, the introduction of charges will involve some transitional and unpopular frustration of expectations; but once the regime is in place, expectations will be more stable than under a regime without charging.

For example flood and coastal erosion risk management (FCERM) schemes often provide large benefits to identifiable owners of residential and commercial property, and of potential development land. Although the government has no legal responsibility to protect private property from flood or erosion risk, it currently supplies some FCERM schemes at the expense of the general taxpayer, without charging the beneficiaries. Decisions are informed by CBA, but there is no guarantee that schemes for which benefits exceed costs will in fact be implemented, since the FCERM budget (at least in England) is tightly constrained. Since a decision for or against a particular scheme may be sensitive to small differences in benefit-cost ratios or priority scores, an affected property owner cannot reasonably be expected to have anticipated that decision.

In consequence, there is no adequate basis for stable expectations. Since expectations, however imperfectly grounded, are capitalised in property values, decisions about whether or

²⁷ <http://www.defra.gov.uk/environment/liability/index.htm>

not to carry out FCERM schemes can have large uncompensated or windfall effects, positive or negative, on property owners. Because of this, there is strong lobbying for specific FCERM schemes, even when these have benefit-cost ratios less than one, and there is political pressure for the payment of compensation for coastal erosion to the owners of unprotected property. A regime in which the beneficiaries of FCERM schemes are charged for the benefits they receive, as recommended in OXERA's (2001) report on such issues for Defra, would not face these problems.

As an aside, coastal erosion risk differs from flood risk insofar as it is uninsurable. It may also not be reasonably foreseeable not only because of the uncertainties about government policy as just noted, but also because the property may have been acquired before it was reasonable to foresee a material erosion risk. There is a case for some degree of risk sharing between those who lose their homes in such cases and wider society.²⁸ However the transition to a beneficiary pays regime may take many years if it is to be politically acceptable and not to put excessive burdens on some households.

The discussion of coastal erosion of the focus groups summarised in Appendix B suggests that, although the transitional problem did not arise, there is some natural public perception in favour of the principle of beneficiary payment for such local benefits.

In some cases it is not clear whether the issue should be seen in terms of preventing pollution and the polluter pays principle, or as the provision of a "benefit" and the beneficiary pays principle. One example is the management of land for wildlife or landscape value. On one construal, farmers who use environmentally friendly and non-profit-maximising practices (such as not using herbicides so as to conserve hay meadows, or maintaining high water tables to protect bird habitats) are supplying benefits to the general public. Environmental stewardship programmes by which farmers are paid by government from general taxation for using these practices are compatible with the beneficiary pays principle. On another construal, the use of herbicides which kill wildflowers or deep draining which destroys bird habitats are forms of pollution. The polluter pays principle would in this case imply that farmers should pay to offset or compensate for these effects.

Which principle is applied affects the distribution of costs and benefits but (under standard economic assumptions) not the allocation of resources. Again, issues of reasonable expectations seem to be involved. If the use of herbicides is seen as a "normal" feature of agriculture, and if the expected profits from their use are capitalised in land values, refraining from using them seems to call for compensation. In contrast, the introduction of an entirely new and environmentally-damaging technology, or a step change in land use such as draining an area of fenland or grubbing up an ancient woodland, would perhaps more naturally be seen as equivalent to pollution. There may be no clear demarcation line between the domains of operation of the two principles. However, the principle that government should seek to stabilize expectations still has force. The demarcation line between the principles should be defined as clearly as possible, stated publicly, and then maintained over time, or changed only with very long advance notice.

²⁸ It is anomalous in terms of fairness, but understandable in terms of public concern about process fairness rather than outcome fairness, that if a building is destroyed to facilitate building of sea defences further inland full compensation is paid, whereas if it is decided to abandon the defences the property owner faces a total loss, and possibly a bill for clearing up the debris.

What is needed within government is a clear understanding of the distributional and efficiency incentive implications of the polluter pays and beneficiary pays principles, and of the transition from one regime to another; and clear exposition, for ministers or other decision makers, of the balances of several factors often needed to determine the most appropriate action (if any) for government.

3.3.3. Green taxes versus tradable permits

The polluter pays and beneficiary pays principles need in any case to be used with care, even aside from the issues of transition from one regime to another. For example they do not necessarily support environmental taxes (which most economists tend to favour) over “cap and trade” regimes (which have more political appeal), or vice versa. Environmental taxes generally raise money for the government to use in the most socially beneficial way, and as noted above this may leave pollutees unfairly worse off and also be regressive. However a cap and trade system diverts the revenue raised to low polluters. This generally provides no better or worse incentive than an environmental tax to reduce pollution, but it may not be the socially optimal use of the revenue, and it may incur much higher transactions costs, while still doing nothing to compensate the pollutees.

3.4. The Setting of Standards

Environmental standards, often absolute maxima or minima but sometimes adaptable for cost-effectiveness, are prolific. Examples include urban green space, building heights, rubbish collection, contaminated land, drinking water, bathing water, urban waste water quality, noise, air quality, chemical and nuclear hazards. Some standards are in the form of absolute prohibitions – e.g. fly tipping, graffiti, dog droppings. Most are to protect people from environmental bads. A few, such as urban green space, are to promote the provision of environmental goods.

A fundamental social justice dimension of standards, but not controversial in the UK²⁹, is that standards should be applied equally to all within the relevant national or local jurisdiction. Beyond this the main questions of fairness lie in the field of proportionality, discussed in section 3.5, where standards and their enforcement should be proportionate to the hazard and fair to the consumers or households who are ultimately incurring the cost imposed by the standard.

The examples listed above could be categorised into groups, according to their being “upper limit” or “lower limit” standards and their scope for flexibility. For example air quality is generally regulated as an “upper limit”. Concentrations of specific pollutants must not exceed precise levels over precisely specified periods of time. Generally, in these cases, there is little concern about whether the actual level is comfortably below or greatly below the upper limit; the one operational concern is to keep it below the limit. This contrasts with say aircraft noise, where there is again an upper limit that must not be exceeded, but considerable concern to mitigate noise levels below that level, down to some much lower “lower limit” of concern. Both of these contrast with a regulation such as that for urban

²⁹ Except when it comes to standards required of other countries. Claims that certain environmental (and other) standards should be required, while sometimes fair, are all too often a cloak for protectionism and certainly not socially just.

waste water, where there is a limit which is presented as an upper limit, but with a proviso for cost effectiveness: if meeting the standard would be disproportionately costly, some relaxation may be acceptable.

This mixing of absolutes and trade-offs was a source of some confusion in the health and safety world until the “Tolerability of Risk” (TOR) framework was developed in the 1980s for the Sizewell B Inquiry (Health and Safety Executive, 1992 [second edition]). This framework applies an ethically acceptable maximum exposure to risk that must not be exceeded, and an ethically acceptable minimum, below which no vigorous effort should be demanded for further reductions. This leaves a typically wide intermediate zone where the detriment (of hazard x risk) should be “as low as reasonably practicable” (ALARP). ALARP entails an explicit trade-off between cost and benefits, which may in some applications include formal cost-benefit analysis.

There could be merit in carrying this advance across to environmental policy, even though there are differences which would make it less useful there. Thus there are many environmental applications, such as air quality around airports, where, in TOR terminology, the defined “upper” and “lower” tolerability limits are the same and this is probably sensible (although in workplaces ambient air quality is regulated by an upper limit and ALARP). More generally there is no environmental analogue for an absolute risk of death, which helps to define the health and safety TOR framework. Environmental impacts are more diverse, and many still defy monetary valuation. On the other hand there are some environmental applications, such as the discharge of very low levels of radioactivity, where environmental policy tends to be driven, rightly or wrongly and notwithstanding BATNEEC³⁰, towards the lowest politically achievable emissions rather than a trade-off analogous to ALARP.

It is hard to envisage an overarching principle defining which environmental hazards should and should not be subject to absolute limits. As long since noted by Coase, in a world with well defined property rights and low transactions costs the control of many impacts could be left to the market, but in the real world this is exceptional. The policy choice is rather between what ought and ought not to be regulated (and by what level of government), the judgement being essentially political (with the level of regulation ideally informed by information on the relevant costs and benefits).

In practice decisions appear sometimes to be driven by political expediency. Some standards provide a degree of protection much higher than could readily be justified by objective analysis, but have been driven by a perception that the government “ought” to impose regulations to the limit of what is politically feasible. At the same time there are others, that attract no serious lobby group attention perhaps because they are perceived as “natural”, where the standards are well below those implied by an analytically based trade off.

It is believed, for example, according to the World Health Organisation, that “every year more than 15 000 deaths from lung cancer occur due to radon exposure in the United States and more than 2 500 deaths in the United Kingdom.” (WHO, 2004). The UK Health Protection Agency reports that “indoor radon has been found to be the second most important cause of lung cancer after smoking” (NRPB, 2003). However regulation is in the form of an

³⁰ Best Available Technology Not Entailing Excessive Costs

Action Level of 200 Becquerel/cubic metre of air, at which households are recommended to take remedial action. Yet “living for a lifetime in a house where radon is at the Action Level is estimated to carry a 3-5% risk of fatal lung cancer, the majority of which are in smokers, but with a significant risk to non-smokers.” This is a risk of death far above the maximum tolerable levels adopted in the HSE Tolerability of Risk framework described above, not to mention the much lower levels of risk implied by some regulatory standards for drinking water.

3.5. Proportionality

The term disproportionate is often ambiguous. Proportionality may mean for example that

- § environmental law should be applied equally to all; or
- § environmental standards, and / or cost-benefit marginal trade-off criteria, should be proportionate to the environmental impact (or sometimes the maximum possible environmental impact); or
- § measures should not lead to “high” political costs, such as businesses being forced to close down; or
- § all individuals should benefit / suffer to the same extent from an environmental good/bad or indeed from any policy change, or at least the impact of any single change must not be regressive.

This last, very egalitarian and very consequentialist (goal-based) definition, equating proportionality with equal environments for all, is often implied in discussions of environmental justice, and is a fairly pervasive sentiment in academic debate.³¹ As noted in section 2.2 above in reporting Pearce’s contribution to an OECD workshop, the environmental justice literature often refers to some sections of society suffering “disproportionate” environmental impacts, but this does not demonstrate that a policy is unfair.

Proportionality as enshrined in EU law requires ‘a proper balance’ to be maintained between the purposes of administrative action and the adverse effects of that action, which can be tested against the three principles of balance, necessity and suitability (De Smith, 1995). Proportionality is also one of the UK Better Regulation Commission’s five criteria for good regulation. In these contexts the meaning is moderately clear in terms of proportionality of the regulation to the risk, if less so in terms of proportionality to the cost.

The concept of “gross disproportion” is embedded in Health and Safety Executive guidance (HSE, 2003) and kept alive in case law, but is fairly criticised as being now outdated (House of Lords, 2006; and Evans, 2006). This is sometimes echoed to some degree in debates on the significance of the “not entailing excessive cost” element of BATNEEC.

³¹ One exception is Bullard (1996), who clearly highlights the ambiguity and offers his own definition, which is “Environmental justice embraces the principle that all people and communities are entitled to equal protection of environmental and public health laws and regulations.” This presents environmental justice as a legal obligation; requiring the state to ensure that laws do not discriminate. It leaves open the extent to which the state should intervene.

3.6. Openness and Participation

3.6.1. General principles

Openness, participation and communication are generally accepted as mechanisms that promote fairness in policy-making. Their contribution to social justice is rooted not in goal-based consequentialism but in the deontological (rights-based) tradition concerned with the justice of processes by which outcomes are reached. Access to information and stakeholder involvement are in this sense elements of justice in their own right, not just as a means to help achieve it.³² They are components of the “equal citizenship” criterion of social justice discussed in Pearce and Paxton: equality of citizenship implies access to information to make informed decisions about exposure to environmental bads, and to have a voice heard when government is setting levels of acceptable exposure.

There is no necessary connection between procedural justice and prior perceptions of outcome justice. For example, participating agents might agree, on knowing the facts well, to an arrangement in which the group willingly accepts the environmental impacts of a policy disproportionately (in the sense of lower environmental quality than others), in exchange for other benefits.³³

Public involvement in decision-making may reinforce the existing distribution of environmental outcomes if no-one is willing to accept a loss, thus ruling out significant redistribution where it is desirable. However public attitude studies suggest that fairness of procedure is often perceived to be more important than fairness of outcome (Miller 1999, 102). This may be because in practice it can be easier to reach consensus on what constitutes fair procedures than fair outcomes, especially when the detailed impact of outcomes is difficult to assess.

Many approaches can be used to help to achieve openness of procedure and information disclosure and to involve the public. At a basic level, from a procedural justice perspective, it is important that stakeholders are aware of the rules and criteria for decision-making and how those rules and criteria are applied. With the shift over recent decades from a ‘tell-me’ to a ‘show-me’ world, openness provides opportunities for enhanced public scrutiny and accountability and is a tool for increasing public confidence in the legitimacy and integrity of the decision-making process, particularly in the context of declining levels of trust in political institutions (Royal Commission on Environmental Pollution, 1998). Examples range from disclosure of decision-making rules, such as the publication by the UK’s Health and Safety Executive of its *Tolerability of Risk* framework for decision-making (HSE, 2001), to holding decision-making meetings in public or live on the net, such as the monthly Board meetings of the UK Food Standards Agency (FSA) and the meetings of the FSA’s scientific advisory committees.

³² Although the effect of openness and participation on the policy outcome is obviously also important, and to some authors much more important. For example Shapiro (2005) ties environmental justice to the disproportionate distribution of environmental impacts. He argues that one of the reasons why this occurs is “informational barriers”, access to information being not of itself an ethical requirement, but a means to achieving socially just outcomes.

³³ It is not unknown for example for local authorities to seek to improve the environmental quality of some location but for the incumbent households or shopkeepers to oppose this, because it would drive the location upmarket and increase rents by more than the value to them of the environmental improvement.

Information disclosure can take many forms, such as general awareness raising campaigns conducted through the media or leafleting, such as recycling campaigns; targeted advice to vulnerable groups, such as the use of personal advisors and community groups to publicise Defra's *Warm Front* programme; or the provision of detailed information on local environmental risks such as air and water quality, flood risk and contaminated land, via media such as TV and radio, the internet and public records. There is also some limited evidence that access to information may contribute to improvements in environmental performance by capitalising on the power of reputation (e.g. Gouldson, 2004).³⁴

There is also some evidence however that blame-avoidance considerations may, in some policy fields, lead to institutional responses to greater openness that mitigate the gains that openness brings (Hood *et al*, 2001: Ch. 9). Governance institutions can employ a repertoire of blame-shifting responses such as increased reliance on rule-driven decision-making, shifting decision-making from the meeting-room into the corridor, or fudging accountability by diffusing responsibility, and hence blame, amongst multiple organisations.

While openness offers the public a '*view*' of decision-making, participation can also offer the public a '*voice*'. Public participation has the potential to improve decision-making by reducing the uncertainties and information asymmetries, by informing a wide range of social and ethical judgements and by building support for policy. Models for participation include public consultation exercises, such as the Public Consultation on Developments in the Biosciences; *ad hoc* and institutionalised stakeholder fora, such as used by the Food Standards Agency to solicit information on consumer attitudes; or organised nationwide debates, such as 'GM Nation'. Such processes may be motivated by concerns about fairness – for example by balancing the influence of vested interests on decision-making – although the contribution of the process to fairness depends on the weight attached to public views, the extent to which they have a '*vote*' as well as a '*voice*', and the operative model of outcome justice.

Disclosure and communication of information, in the environmental domain, is in any case a precondition for informed public debate and for people to exercise their political and civic rights, especially when they are expected to make informed decisions about their own exposure to environmental harms.

While such reforms are held to be a key feature of modern governance, they raise questions about what the public can reasonably be expected to do to inform themselves about environmental harms, and their competence to understand and respond to information (including the issues of children and other vulnerable groups).

The literature on the public perception of risk shows that a wide range of factors shape public understanding of scientific information and willingness to follow official advice. It is therefore rarely enough for policy-makers to provide information without considering how the public will understand and respond to it. As noted in section 2.6, the risk perception literature has identified a number of psychological, social and institutional factors, such as perceptions of control, the dread characteristics of risk, and levels of trust in decision-makers,

³⁴ For example, the UNECE Kiev protocol of 2003, requiring inventories of pollution from industrial sites, is expected to exert a significant downward pressure on levels of pollution because of the reputational concerns of companies identified as the biggest polluters.

that can shape public responses to risk. This poses serious dilemmas for government in helping the public to make informed decisions and integrating the public into decision-making processes.

As a modest contribution to public consultation the present study included two small focus groups in July 2007 as reported in Appendix B. These suggest that, overall, there would appear to be good potential for further consultation on such questions with members of the general public.

3.6.2. Application to environmental policies

The practical problems encountered in trying to operationalise access to information, openness and participation are illustrated by looking at the several policy areas listed above, as follows.

In the cases of **flood risk and coastal erosion**, the public can consult national flood and coastal erosion maps to inform themselves about potential risks, and, of course, flood warning systems provide emergency information to help the public take reasonable steps to protect themselves and their property. But in both cases, there are a number of socio-cultural factors that shape the way in which the public interpret risk information that poses dilemmas for government if it is to help the public make informed decisions.

In case of **flooding**, research suggests that there are a number of factors that shape how people interpret risk information provided by flood maps and how they are likely to respond to flood warnings. For example, studies of public responses to flood maps in Switzerland found that public perceptions of risk were highly dependent on their personal experiences of flooding rather than on the provision of information, leading to over-preparedness in some regions, but under-preparedness in others (Siegrist and Gutscher 2006; Keller *et al* 2006). That research found that most people were not aware of the maps, nor were there consistent policies to communicate expert risk assessments or advice to the public. Other research on flood warnings and vulnerability has found that a range of groups, such as the elderly or different language groups, have difficulty in understanding and responding to flood warnings (e.g. Thrush *et al* 2005). Such factors present obvious problems for policy, such as how best to help people make informed choices about flood protection when they purchase a house or insurance.

Such difficulties have contributed to considerable interest in the development of participatory or partnership based approaches to flood planning processes in many countries (Fordham 1999; Godshalk *et al* 2003; SDRN 2004, 85). These approaches are claimed to help the community take on an element of responsibility, identify vulnerable residents and disseminate information. They may be particularly important in forestalling unfounded expectations about the role of government in flood protection, especially in cases where policy is changing. In practice, however, experience in the USA suggests that these approaches have met with variable success, for example in terms of soliciting public interest (Godshalk *et al* 2003).

Similarly, in the case of **coastal erosion**, public perceptions of the risks to which they are exposed can be shaped by contextual factors such as trust in the authorities. Research on shoreline management in North Norfolk, for example, found that the public (a small and well

organised community) felt ‘let down, treated unfairly, not properly consulted, and a combination of resigned helplessness and deep resentment’ (Milligan *et al* 2006, 4). It can be difficult for authorities to find a language to explain proposals to abandon flood defences for stretches of shoreline, particularly in the face of effective and media-savvy lobby group action (a problem not dissimilar to that confronting NICE when it has to explain why a particular cancer drug should not be recommended).

Of course, in such cases, those that stand to lose if flood defences are abandoned may simply reject any changes that disadvantage them, or want compensation. The North Norfolk research, however, also found that stakeholder engagement could play a positive role, observing that residents were willing to negotiate possible adaptation measures if the negotiations were ‘responsible, accountable... and fair’. Indeed, the research suggested that such negotiations could capitalise on the ‘many on the coast who have specialised knowledge born of deep experience and contact with the sea. Their views are especially important.’ (Milligan *et al* 2006, 32-3)

Recognition of the need to build public consensus, in particular the support of key stakeholder groups, has been built into the legislative framework of the **Water Framework Directive**. Article 14 on ‘public information and consultation’ requires active public consultation at all stages of implementation of the Directive, from its transformation into national laws to the development of a river basin management plan. Member States, for example, have to involve the public in drafting of the timetable and work programme, identifying significant water management issues, and in the drafting of the river basin management plan. As these schemes are in the process of being implemented, it is too early to comment on their success.

The problem of **contaminated land** has similarities to that of flooding insofar as, if the public want to inform themselves about potential risks, they can freely consult a register maintained by local authorities (in accordance with Section 78R (1) of The Environmental Protection Act (1990)). But, as in the flooding case, expert assessments of risk cannot be readily translated into well balanced public perceptions of risk. Instead, public perceptions are likely to be shaped by a range of so-called ‘fear’ factors (as excellently summarised in the Department of Health (1997) “Pointers to Good Practice” in communication of health risks) such as the particular vulnerability of children; the possibility of latent, irreversible and potentially lethal harm; and blight. Most famously, public concern over the Love Canal case in the US in the 1970s prompted the creation of Superfund that called for expenditure of \$1.6 billion on land clean-up (Sunstein 2002, 78 ff). Recent research on public risk perception of heavy metal contamination of land found public perceptions to be strongly shaped by a number of emotional triggers (Grasmück and Scholz 2005). Such research again identifies important dilemmas for government in providing information to help the public reach informed decisions. The principle of equality of citizenship is a good objective, but applying it in a way that best serves the public interest can be very challenging.

In the case of **fuel poverty**, under Defra’s ‘Warm Front’ programme in England (and related initiatives across the UK), information provision takes the form of awareness raising amongst target groups about energy efficiency and providing free energy surveys and advice, which are linked to grant provision to install central heating systems and insulation. In England,

Wales and N. Ireland, these activities are contracted to a private company, Eaga.³⁵ In future, policy initiatives such as Home Information Packs may require energy efficiency surveys prior to house sales.

As in the cases of flooding and contaminated land, experience suggests that considerable care is needed in providing information to ensure that people make well informed choices. For example public perceptions of energy efficiency measures sometimes lead consumers to make false economies, such as not installing or using central heating because of the perceived expense, or using prepayment meters rather than cheaper direct debit payments. It can also be difficult to reach groups that are most in need, especially rural communities, ethnic minorities, pensioners and those in rented accommodation. In these cases impersonal information provision such as mail shots is less effective than direct contact. Greater success has been achieved by delivering the scheme on the ground using thousands of advisors and especially working through trusted intermediaries such as community groups, citizens advice or faith groups. The use of trusted third parties as effective means of delivering messages echoes similar findings in much risk communication research (Lofstedt 2005). While there is scope for other domains to learn from this experience, the issue of cost is obvious.

Unlike the other case studies discussed in this Report, **Personal Carbon Allowance (PCA)** schemes are only at the drawing board stage, but in what would probably be technically complex schemes the availability of appropriate information and advice would probably be critical to success. A study by the Centre for Sustainable Energy records that there is as yet virtually no research on the issues of information provision, advice and public understanding (Roberts and Thumin 2006). That study reports unpublished research suggesting that public perceptions are likely to be influenced by broader concerns, such as civil liberties implications raised by personal carbon databases, perceptions of equity, feasibility, costs, and potential for fraud. The study also reports on related research on carbon taxes that suggests that public perceptions are influenced by the belief that such schemes are simply 'tricks' to raise taxes, lack of trust in government promises to introduce measures to help reduce carbon such as recycling, and lack of understanding of the concept of price elasticity (Dresner 2002).

There is also no research as yet on how the public would respond to market signals created by carbon trading. The RSA is currently testing public attitudes to PCAs through polling and deliberative groups, including the exploration of communal carbon credit spending and trading, but no results are yet available.³⁶

Waste Collection appears to be developing into a high profile issue, all too easily exploited by the media and populist politics. Although a local issue, subject to central government constraints, it may be an area where the public interest might be served by careful central government involvement in communications issues – for example in the provision of information in a form that people could trust about good experiences of and about problems with changing regimes, in England and elsewhere.

We note with interest that the Defra's Delivery Agreement for its **natural environment** Public Service Agreement (http://www.hm-treasury.gov.uk/media/1/3/pbr_csr07_psa28.pdf),

³⁵ <http://www.eaga.com/>

³⁶ <http://www.rsacarbonlimited.org/aboutcarbonlimited/default.aspx>

as well as referring to “a strong economy and a fairer society” (paragraph 3.2), includes a substantial discussion of “Public Engagement”, including an illustrative list of five “innovative approaches to ensure individuals are given opportunities to input to the design and delivery of our policies and programmes” (Paragraph 3.52).

3.7. International and Intergenerational Justice

Social justice in the environmental context across international and intergenerational divides has achieved and is likely to retain a high profile in the wake of concerns about climate change. Reactions to the Stern Review (Stern, 2006) revealed the lack of universal academic or wider intellectual consensus on how relative weights should be ascribed by a developed economy to marginal income or marginal utility across nations or generations. There is in particular a lack of consensus on whose preferences should be respected.

In the economics literature the majority opinion³⁷ is that policy in this as in other areas should normally reflect the informed preferences of those (typically a national electorate, or those that would be materially affected) on whose behalf decisions are being made. However there are well-documented, serious difficulties of eliciting unbiased and dependable measures of the informed preferences (Loomes, 2006), which suggests that there are important areas in which the public interest is served by protecting people from their lack of knowledge, expertise, or foresight, and where people want to be protected from their own shortcomings by delegating some decisions to people they trust to be better equipped to make the necessary judgements.

There is also a significant minority view that some such decisions are in any case for an enlightened elite of economists, lobbyists, politicians, or other experts. This “enlightened policy maker” view is illustrated by aspects of, and debate about, the Stern Review.

One source of debate since the 1920s has been the question of how much weight to put on the marginal *utility* of future populations. Leading practitioners today favour a rate of discounting over time that reflects the considered preferences of the present population, probably implying a rate of the order of one per cent or so per year, at least for the next several decades. However from the time of Pigou eighty years ago some economists have claimed that there is a moral imperative to reject such a “myopic” view and give equal weight to expected changes in the marginal utility of all future populations (as presumably would Rawls). Stern adopts this Pigovian view and has been criticised for this.³⁸

The Review has also been taken to task (Dasgupta, 2006) for adopting a position that is close to the majority welfare economics view on the discounting of future marginal *income*, to allow for the fact that future populations will be richer and so gain less welfare from extra income. Dasgupta argues that the decline in weight given to marginal income as per capita income increases should be very high, on the moral grounds that less weight should be given to the marginal *utility* of richer populations. The usual convention, broadly adopted by Stern,

³⁷ Reflected, in the intergenerational context, in the collection of papers edited by Portney and Weyant (1999).

³⁸ The most prominent critics have been economists who believe that social time preference is revealed by market rates, which is not the view of welfare economists in general. The big guns of welfare economics, such Arrow and his successors, have stayed aloof from the post-Stern debate on discounting, perhaps because they have been through such debates very many times and long since made their positions clear.

is that the weight given to the marginal utility is independent of income, although the elasticity of marginal utility of 1 used by Stern (and currently by HM Treasury) is towards the low extreme of what might be squared with the empirical data.

It is however not uncommon to find in academia an assumption that this elasticity adopted for public policy does or should have a moral element as Dasgupta would wish. In practice, at least in the UK, this has never been the case. It would be helpful if guidance within government made clear the assumption embedded in this component of the discount rate, whatever the assumption may be.

As for international justice, Foley, Grayling and Dixon (2005) comment, with understatement, that “the question of our obligations to those living in other countries is problematic”. As in the case of future populations, there is a divide between those who believe this should be approached in terms of the considered preferences of people in general and those who believe it is for a supposedly enlightened elite.

Empirical data on social preferences both about pure social time preference and about international equity are regrettably scarce.³⁹ However international priorities, and the weight to give to the very long term, are likely always to be issues of subjective concern to government ministers. The main contribution to social justice in this context for the current generation is that the basis for such decision making is transparent. A notable absence from current public debate on these issues, at least in the UK, is open recognition of the importance of international weightings, let alone any hint of their implied quantification. Acknowledgment of contributions such as Schelling (2000) would improve public and political understanding.

Ikeme (2003) provides an interesting analysis of the different conceptual frameworks adopted by developed and developing nations in their approach to climate change politics.

As for discounting over time intervals of say a century or more, there are very good arguments for avoiding the concept of present value altogether.⁴⁰ This is especially so when the impacts being considered include potential impacts, as appear to be important in the analysis of climate change, that are very far from marginal, but entail for example the large scale destruction of social structures. What is needed for good decision making in such circumstances is a description of what state of the world might arise, with what likelihood at what time, for each policy option. The use of present values typically diverts attention from much more important questions about the nature of the impacts in real time, to the disbenefit of both current and future generations.⁴¹

As for the medium to long term, over half a century or so, there are overwhelming technical arguments for a declining discount rate, partly because pure time preference almost certainly

³⁹ Despite the considerable body of evidence on *personal* time preference, which is a somewhat different concept (e.g. Frederick, 2003 and 2006).

⁴⁰ This again is reflected in Portney and Weyant (1999).

⁴¹ This is especially important when the level of the hazard is very uncertain but may plausibly, even if very improbably, lead to catastrophe. This is a point developed in a forthcoming critique of Weitzman (of which drafts have been placed on his website) which stress that the crux of the climate change hazard is that of “fat tails”. This is a sufficient call for strong action and, being intra marginal, it is beyond the scope of conventional cost-benefit analysis.

follows such a pattern (as discussed in for example Schelling, 2000) and more so because the cumulative effect of discounting means that, if there is uncertainty about the rate, the bottom end of the range increasingly dominates as the time span increases (see for example Spackman, 2004, Table 2, page 499). However although this formally reflects public preferences it is less clear that the public interest is best served by a schedule of declining rates, again because it can divert attention away from usually much more important questions about the real time impacts. As an example, in the current UK regime, confusion arises from the lack of differentiation, in the declining schedule beyond 30 years, between pure time preference (as applied to safety and many environmental benefits) and the income related component of the discount rate.

3.8. Sustainable Development

The term sustainable development, and especially the adjective “sustainable”, have become progressively more prominent in recent year in government and wider political rhetoric and policy statements.⁴² Are there synergies, or conflicts, between sustainable development and social justice?

In its first use, in the Brundtland Report (World Commission on Environment and Development, 1987), sustainable development was defined it as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. The economic literature similarly focuses on future generations. In the words of Sen and Anand (2000), “the central idea underlying ‘sustainable development’ ... [is] guaranteeing that future generations would continue to enjoy ... opportunities of leading worthwhile lives that are enjoyed by generations that precede them.” Solow (1992) proposed that sustainable development requires us to “bequeath to posterity not any particular thing, but rather to endow them with whatever it takes to achieve a standard of living at least as good as our own... We are not to consume humanity’s capital, in the broadest sense.”⁴³

However current Government sustainable development strategy is defined in terms of four aims that are much broader in scope than the Brundtland definition.⁴⁴ These are:

- § Social progress which recognises the needs of everyone;
- § Effective protection of the environment;
- § Prudent use of natural resources; and
- § Maintenance of high and stable levels of economic growth and employment.

⁴² More recently Defra has promoted the theme of “one planet living”, “one planet farming” and so on – e.g. <http://www.defra.gov.uk/news/latest/2006/defra-1013.htm> – and we understand that there has been some debate as to how this is differentiated from sustainable development. We assume that the one planet theme simply emphasises the international aspects of the sustainable development agenda.

⁴³ Solow’s definition captures the natural meaning of ‘sustainable’ It is clear about the implied trade-off between the welfare of the current and future generations, and it is in the spirit of an entitlement perspective of justice. Operationalising the idea of at least maintaining the total value of the capital stock is difficult, but it seems the right starting point.

⁴⁴ UK Government Strategic Framework (March 2005) *One Future - Different Paths*.

The aim of “social progress which recognises the needs of everyone” relates closely to the concept of environmental justice in its usual sense. Its emphasis on providing individuals with basic needs can be justified on the grounds of a capabilities approach as in Sen (1978), whereby fulfilling an individual’s basic needs gives them the ability to pursue other activities. This aspect of the sustainable development strategy is closely related to the Stephens et al. (2001) definition of environmental justice⁴⁵, and is reflected in its applied form by Curtice et al (2005). However the four aims seem to be serving a rhetorical rather than any more substantive purpose. They are objectives to which any modern democratic government would aspire.

At a more technical level, helping to address strategic judgements about intertemporal social justice, Perman et al (2003) offer a review of different approaches to sustainable development, such as whether it requires that consumption does not fall over time or that utility does not fall over time. Arrow et al (2004), more usefully, develop an impressive model allowing empirical checks of the impact of current world policies on the future path of social welfare, concluding that current high level policies are broadly sustainable.

Foley, Grayling and Dixon (2005) suggest that environmental sustainability is compatible with fairness and equality. Indeed there does not appear to be any conflict, in principle or in practice, between social justice and sustainable development. Both imply fairness, but neither imposes a significant constraint (nor by the same token does it immediately provide operational guidance) on how fairness should be interpreted in practice.

3.9. Guidance on Social Justice in Environmental Policy

The first paragraph of the Preface to the current issue of the Treasury Green Book refers to spending “on activities that provide the greatest benefits to society”, and the first paragraph of the first Chapter refers to assessment “so as best to promote the public interest”. There is thus no conflict, at this high level, between the Government’s technical guidance on appraisal procedures and the objective of social justice, which is presumably one component of the public interest.

However since the earliest days of formal quantitative appraisal of public policy there have been frequent concerns that data expressed in monetary terms can too easily drive out important factors that cannot sensibly be explicitly valued. There has been concern in particular in recent years about the lack of emphasis traditionally given in cost-benefit analysis to distributional impacts, as distinct from total social costs and total social benefits.

In practice, following from earlier discussion in this Report, most of the more challenging social justice issues in environmental policy arise from issues of distribution:

- § by income, or ethnic, or other household characteristic, such as social group or household size;
- § between polluters and pollutees;
- § between beneficiaries of local policies and national tax payers as a whole;

⁴⁵ A situation is environmentally just if people are provided with the minimum set of conditions to achieve a healthy life.

§ between taxpayers and those adversely affected by changes in policy or other unforeseeable and uninsurable local environmental change;

§ between the public interest and political / institutional interests.

The income distributional aspects of social justice in public policy are often handled in government policy by the simple principle of ignoring, at least in principle, differences of wealth or social differences in the delivery of public services. Thus, for example, the fact that an NHS patient with a high income would be willing to pay more for rapid, top quality medical care has no bearing on the weight given to that patient relative to poorer patients. The same principle applies to public education. However some of these examples, with their associated issues such as private sector supply and house prices around schools, illustrate the political dimension of social justice.

This egalitarian approach in the social services is sometimes built into cost-benefit conventions. For example the values of time and of small changes in risk of death or injury in the conventions developed by the Department for Transport and its predecessors, and widely used throughout Whitehall, are so-called “equity” values, applied equally to all people regardless of wealth or other circumstances, even though the rich would generally be willing to pay more than the poor.⁴⁶ The “quality adjusted life year” used in analysis of the cost-effectiveness of health impacts is similarly blind to income. However such procedures (even if they can be regarded as sound analytical practice, which is disputed) deal with only a limited, albeit important dimension of social justice.

The most comprehensive measures to broaden formal analysis procedures more widely have been led again in transport (Department for Environment, Transport and the Regions, 1998), although similar procedures are also being developed by Defra for the analysis of Flood and Coastal Erosion Risk Management. Under this procedure the monetised analysis contributes to a one-page Appraisal Summary Table (AST), where either values or scores are recorded against five main criteria of economy, safety, environment, accessibility and integration, each of which has between two and ten sub-criteria.⁴⁷ The transport scheme is prioritised on the basis of this information. The procedure is rather grandly described as a “multi-criteria analysis”, but at present makes no use of the extensive decision analysis literature on handling data of this kind. The prioritising is based on the immediate professional and political judgments of the relevant officials and ministers. The information provided in the AST does however include a description of who benefits and who loses, in contrast to the historical tradition of cost-benefit analysis where social costs and benefits were aggregated, with no picture of the distribution of costs and benefits.

In the case of transport, although there are significant distributional social justice aspects to accessibility, the impacts are predominantly economic and environmental. Environmental policy often has a stronger distributional social justice dimension, because the impacts of environmental policies are more often concentrated on relatively small groups of people.

⁴⁶ Defra have also been considering the application of a similar principle to the valuation of flood risks to households, that traditionally have been based on the costs of the property damage, so generally giving more weight to richer households. The costs might more equitably be applied as a national average across all households.

⁴⁷ The current table is recorded in the Department for Transport’s WebTAG Unit 2.7.2 at http://www.webtag.org.uk/webdocuments/2_Project_Manager/7_Transport_Appraisal_Green_Book/2.7.2.pdf

There would seem to be a case for fuller general guidance for central government officials on the distributional aspects of policy development and implementation. However there is a good case for such guidance being confined to distributional impacts. Any attempt to provide guidance on social justice more widely would seem dangerously prone either to presentational rhetoric or to opinions specific to a particular political party or minister.

The Treasury Green Book already includes an Annex on distributional impacts, but this addresses distribution by income only in terms of distributional weights (which as noted above is not always the best approach) for income and for other criteria in terms of anti discrimination legislation and conventions and equality commissions and units within government. If the Green Book were to cover distributional issues more comprehensively it would presumably be through the expansion of this distributional impacts Annex. Meanwhile, Defra might usefully set a lead in the context of environmental policy.

Points that could usefully be made in such guidance include the following.

1. In public policy development and implementation, the distributional aspects of social justice can be equated with “fairness”. There is no robust operational definition of fairness. However there are several concepts and headings that can help to frame debate and analysis.
2. A distinction can be drawn between process justice and outcome justice. In terms of popular opinion, process justice tends to carry more weight. Process justice is important, but in the wider public interest it should not divert attention from outcome justice.
3. One basic principle of fairness is that environmental regulation should be designed and implemented with equal consideration for all. As a principle this is uncontroversial, but influences such as good and fluent organisation by some groups and weaker communication skills, or a culture of acceptance, by others, may unbalance the distribution of public services and the policy design and implementation should consider this.
4. A distinction is often drawn in philosophy between inequalities that arise from choice, or “option luck”, and those that arise from “brute luck”. Life is full of brute luck and the extent to which the state can sensibly respond to this is very limited. However the destruction or substantial reduction in value of property for social needs such as infrastructure building routinely attracts compensation. There may be other circumstances where people’s reasonable expectations have been overtaken by uninsurable hazards where risk sharing between households and the state may merit closer examination.
5. The polluter pays principle is often understood to mean the polluter paying either to clean up pollution or paying the social cost of pollution to the state. Polluter payments to pollutees, if feasible, rather than to the state, would in the long term be fairer and would provide better incentives to optimise cost-benefit trade-offs. (Emissions trading schemes are an application of the polluter pays principle, but a very weak application if the emissions permits are issued at no net cost to the polluting industry.)
6. The concept of the beneficiary paying for benefits provided by the state also has a solid intellectual and ethical pedigree and is prima facie fair, especially where substantial benefits are provided locally at a high financial cost.

7. The financial impact of a change in local environmental quality, even if it will deliver future social benefits over an extended period, falls mainly and immediately on property values, to the net cost or benefit of those owning property at the time the policy is changed, rather than those who move in later. If these costs are large, changing a regime may therefore need to be phased over a long period if large windfall gains or losses are to be avoided.
8. Governments face pressures to respond to snap opinion and other proxy indicators of public opinion such as front page news stories, rather than more reflective public reasoning that may not make itself heard. They also face temptations to introduce measures with a symbolic, populist appeal rather than best reflecting the public interest. Also some risks of low news potential stay at the bottom of policy agendas even though they pose as much or more harm than other risks. Institutions also face incentives to avoid the risk of blame, sometimes at heavy cost to those whom they are meant to serve. Good government demands effort to counter these many imbalances.

Methodological points that could usefully be made include the following.

1. Institutional difficulties, such as local authority financing conventions that are the responsibility of another government department, must be respected, but should not be allowed to prevent the exploration of better policies that changing them might allow.
2. Proportionality should be applied to all costs and benefits. Regulators should look for proportionate regulation whether or not this is the same as the tightest regulation that is technically and politically feasible.
3. The outputs of cost-benefit analysis, or other monetary analysis of a public service policy programme or project, should always be presented in a context that includes other material but non-monetised costs and benefits. They should also include a presentation of how the costs and benefits are distributed. This is generally best achieved by means of a one page appraisal summary table bringing all the impacts together. Consideration should be given to how judgments needed in comparing measures in different dimensions can best be organised, including formal multi-criteria analysis techniques.

Openness and communication, as noted above, including the distinction between actual and perceived fairness, are also important for social justice, and they too deserve more prominent mention in the Green Book. However guidance in this field is probably more effective if it is self-standing. As general guidance on the importance of the characteristics of risks it may be hard to improve on an updating and generalisation of the Pointers to Good Practice produced by the Department of Health (Department of Health, 1997).

4. Conclusion

Social justice is a useful and laudable, but elusive concept. In everyday language it can be equated with “fairness”, although as recorded in section 2.3.2 fairness is interpreted very differently in different schools of literature. There is no widely accepted, operational definition of social justice, nor are there established conventions for how a democratic government should apply it.

Even across the domains of environmental policy alone, the diversity of practical applications and relevant concepts and academic disciplines is extremely wide. However in the environmental context, where the ethical and political tensions are less severe than in some other policy fields, it would be feasible to develop guidance to help frame debate about fairness in policy and its implementation and in public perception. Relevant themes and concepts include the following.

i) Distribution by income or other social group

Social justice in the environmental context is sometimes seen mainly or even wholly (as in the “environmental justice” literature discussed in section 2.1) in terms of distributional impacts by household income or ethnic group. However many of the most important social justice aspects of environmental policy involve quite different distributional dimensions.

Moreover, as noted in section 3.2, the fact that poorer households generally face lower local environmental standards than richer households is no more nor less socially unjust than poorer households maintaining a lower standard of living in general, such as smaller houses and older cars, than richer households. However there are, or should be, lower limits of acceptability for some environmental standards; and it is important that poorer communities should not be less well served by government because they are less articulate or otherwise less politically influential than richer communities.

Environmental taxes or charges, as noted in section 2.3, are probably usually regressive, in the sense of providing less net value to poorer households, as a proportion of their income, than to richer households. However income redistribution in public policy is routinely mitigated by policy-specific or general redistributive policies. It would be unfortunate if income distribution concerns greatly hindered the introduction of such tax or charging regimes where they are otherwise in the public interest.

In some areas of environmental policy, such as flood and coastal defence, income distribution might be handled in the same way as in most other public services, such as health, education and transport (and indeed in many environmental regulations), by addressing policy to impacts on personal welfare and simply giving the same weight to all people regardless of their income.

ii) Windfall gains and losses from policy changes

As noted in section 3.3, the main net impact on welfare of a local change in (especially urban) environmental quality, for example from a flood protection scheme or an incineration plant, is on property values. Once a scheme is in place it will continue to have an impact on the local environment, but this will be reflected in rents and in the prices paid by new owners

of property. This presents an obstacle to changing any scheme for compensation or payment for loss or gain in environmental quality. Any change in policy regime might need to be introduced over many years if were not to be excessively unfair to (or overgenerous to) some property owners.

Such windfall effects also strengthen the case, in terms of fairness, for the costs of local improvements to be recovered from local property taxes.

iii) Reasonable expectations

As discussed in sections 3.2 and 3.3, a key concept for social justice in changes of policy is that of “reasonable expectations”. A negative impact that could reasonably have been foreseen and acted upon by those affected does not generally merit any government compensation. A negative impact of a new or changed public policy that could not reasonably have been foreseen may merit some form of compensation, or spreading over time, if the effect on the welfare of individual people or households is very substantial.

iv) Polluter payment, beneficiary payment and compensation

As discussed in section 3.3, polluter payment and beneficiary payment (and also compensation) are interrelated and rarely lend themselves to obviously optimal solutions, even setting aside the political and administrative challenges of implementation.

The polluter pays principle originated with a requirement on polluters to pay to restore the damage they have done to the natural environment or to prevent further damage. Where the environmental cost falls on other people it would generally be more equitable and more efficient for the payments to be made to compensate the pollutees, if it were feasible, rather than made to the state.

Payments by beneficiaries of local environmental measures (such a flood and coastal protection) would in the long run be fairer and provide incentives for more efficient outcomes than payment by taxpayers as a whole.

There are no absolutely right or wrong answers to questions of who should pay or be paid to undo, offset, prevent, or accept damage to the environment. They require ethical and political judgements about what is a fair distribution of costs and benefits. It is therefore important that the distributive issues and arguments should be made clear in developing and proposing such policies, within government and to Parliament, the media and those directly affected.

v) Transparency and consultation

Defra’s concerns about social justice arise largely from concern is about policy substance, to achieve policies that serve the public interest in being just and efficient. They also arise from concern to gain public acceptance of the Department’s policies.

Both of these concerns are met in part by public involvement in policy development. Transparency and consultation are also themselves elements of procedural justice. – that is fairness in the processes of policy development and implementation, as distinct from fairness in the policy outcome.

As discussed in sections 2.5 and 3.6, there is a substantial literature on openness and participation on public policy, many of the issues being closely relevant to environmental policies.

A wide range of approaches is used by government departments and agencies to promote openness of procedure and information disclosure and public participation. Useful lessons might be learnt from the practice of bodies such as the Food Standards Agency. Defra's own activities in promoting the Warm Front programme exemplify good practice in that field.

There is a case for more investigation of the relevance to environmental policy of the extensive literature on risk communication that is taken seriously in some other policy fields, such as health policy. Many psychological, social and institutional factors shape public responses to risk and it is rarely enough for information to be provided without consideration of how the public will respond to it, as illustrated in section 3.6.2 by case by case consideration of a range of environmental policies.

As described in Appendix B, two small focus groups discussed such issues for this study. It appeared from these discussions that, in contexts of this kind, the interpretation of fairness is amenable to constructive public debate.

vi) Absolute standards versus cost-benefit trade-offs

Some environmental regulations are defined as absolute limits, for example of concentrations of pollutants in air or water, whereas some, especially in industrial contexts, allow some sensible balancing of lower environmental impacts against greater costs to society in other ways.

As described in section 3.4, a "Tolerability of risk" (TOR) framework developed by the HSE for health and safety regulation combines absolute, ethically determined upper limits of risk with explicit cost-benefit trade offs below that level (down to a very low minimal level). This is useful in policy formulation and public communication in that field. As noted in section 3.4 there are material differences between health and safety and environmental regulation, but Defra might consider the scope for some more structured presentation of its handling of absolute limits and "best available technology not entailing excessive cost" (BATNEEC) trade-offs, on the lines of the TOR framework.

vii) Institutional pressures and constraints

Most of public policy is subject to institutional pressures and constraints that drive a wedge between policy outturns and what would be applied by a hypothetical benevolent dictator. For example articulate local or national groups or institutions promoting particular issues, or the absence of such groups, affects policy outturns. For example, as noted in section 3.4, the policy approach to radon in homes, which has a low media profile, is not consistent with that of very low level radioactive industrial emissions. And political pressures on government are stronger for large expenditures on urban river water quality than for expenditures on the removal of lead pipes from drinking water supplies.

Great openness can help but in some circumstances can be counterproductive by leading to the internal suppression of information, or avoidance of otherwise desirable actions, that expose the institutional to blame.

Procedural obstacles outside the remit of the responsible department or agency, such as anomalies in the conventions controlling local authority expenditure, can lead to otherwise desirable options never being seriously considered.

The achievement of social justice (procedural justice and outcome justice) needs an awareness of and measures to offset these influences.

viii) Sustainable development

As noted in section 3.8, sustainable development as defined in UK government appears neither to add significantly to social justice as discussed in this report, nor to stand in the way of it.

ix) Guidance on social justice

As discussed in section 3.9, there is scope for central guidance on the identification and handling of the distributional aspects of social justice. Guidance on social justice more widely would be too prone to presentational rhetoric or to temporary and evidently political bias.

Discussion of social justice does not fit easily into the disciplinary boundaries within government. Wherever the lead in drafting might lie, any guidance should be drafted in consultation across social scientists and economists within government as well as policy officials and possibly external consultation. A suitable platform for further Whitehall wide guidance on distributional impacts could be a new edition of the “Distributional Impacts” Annex of the Treasury Green Book. However in the medium term Defra might usefully set a lead with respect to environmental policy.

Such guidance could set out many points listed in section 3.9 on concepts and methodology, including the need for the inclusion of a clear presentation of the gainers and losers from any project or policy proposal in the summary data presented to decision makers, and for mechanisms to organise the judgements needed in comparing measures in different dimensions.

There is a case for general, self-standing, central government guidance on risk communication. As general guidance on the importance of the characteristics of risks it may be hard to improve on an updating and generalisation of the Pointers to Good Practice produced by the Department of Health (Department of Health, 1997), mentioned in section 3.6.2.

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Appendix A. Specification

Social justice, public engagement and accountability: better decision-making in an environmental context

Introduction

DEFRA invites bids for a research project. Tenderers should submit detailed proposals, considering the objectives, outputs and timetable set-out. The focus is on social justice and the broad aim is to provide policy-makers in the Environment Directorate General, DEFRA and across government with guidance on how to better account for and develop policies in consideration of social justice.

It requires a strong academic background in welfare economics, and experience and understanding of the practice of policy-making in England. The project is expected to begin in August 2006 and be completed by September 2007.

Background

Social welfare can be considered a function of two components, economic efficiency and social justice. Economic efficiency is about getting the most (utility) from some set of resources. Social justice (or equity) relates to achieving a 'desirable' distribution of utility across society.

Economic theory provides an excellent framework for promoting economic efficiency, and this is strongly reflected in government guidance on policy development. According to the Green Book, the rationale for policy must be found in some underlying market failure and the policy is considered worthwhile where the aggregate of benefits exceed the aggregate of costs, considered at the national level⁴⁸. But does it matter who accrues the benefits and the costs? By contrast, there is very little guidance on how to account for the distribution of benefits and costs associated with any policy, and any trade-offs arising between efficiency and distributional objectives. For example, consider two policy options. Policy A generates benefits of 5 to an individual and costs of 4 to another. Is this equivalent to policy B that generates benefits of 1 to an individual and no costs to anyone?

The Environment Directorate General (EDG) DEFRA have become increasingly interested in the issue of social justice though there is no clarity on exactly what is meant by this and what its impact is on policy development. In Flood and Coastal Erosion Risk Management (FCERM), the issue of social justice has arisen in the context of managed realignment. It has been shown that, in some cases, it is cost-beneficial to realign coastal defences inland. However, this inflicts significant costs on those householders and landowners whose property will be lost, and has generated a strong sense of injustice. EDG DEFRA covers a broad set of issues. These include; combating climate change and promoting energy efficiency, delivering waste management and water quality, and managing risk of flood and coastal erosion.

⁴⁸ This is an application of the Kaldor-Hicks efficiency criterion.

One way to address distributional concerns is to apply the Pareto efficiency principle and provide compensation to those adversely affected. However, it would appear that, in public policy in England, compensation is relatively rare, provided only where it is required to facilitate the policy and largely for tangible damages (e.g., compulsory purchase of housing or land to build roads or coastal defences). Direct compensation is not provided, for example, to householders in a flight path in respect of losses to health and wellbeing.

There are other ways to address social justice. Compensation may be provided indirectly. For example, if a national forest impedes the development of a city, policy-makers may ‘do something nice for the city’, e.g., build a public highway. Laws prohibit policy-makers from taking some actions that inflict costs, and the political process may restrict implementation of policies where there are clear losers. However, there is no explicit guidance on how to address these issues and what criteria to take into account.

Objectives

The focus of this research is on social justice. Broadly, it contains three steps; identification of best practice in addressing social justice, critical review of current practice in EDG DEFRA and an application to a specific and relevant policy problem in EDG, DEFRA.

The objectives of this research are to;

- § Provide an accessible review of welfare economics, focussing in particular on the issue of social justice and its implications for policy-making. The review should define concepts clearly, fairly represent alternative theories and evidence, and establish the boundaries and syntheses with other social sciences. The aim is to better define what is meant by social justice, and provide a robust analytical framework for the department to think about issues of social justice.
- § Consider the implications of social justice for how policies are designed and appraised. This should include consideration of the following;
 - provision of *actual* compensation. Compensation provides a mechanism for re-distributing the benefits and costs associated with a policy, and addressing the ‘injustice’ inflicted on individuals adversely affected by social policy (e.g., householders located close to a flight path, energy supplier or road). The research should explore the case for compensation, in principal and in practice. This should draw on welfare economics and other theories of social policy formation, evidence of use of compensation across government and any existing guidance on the use of compensation. Compensation should be understood in a broad sense, and not exclusively as direct ‘financial’ compensation.
 - engagement of ‘stakeholders’ in decision-making. Engagement in decision-making of those affected by a policy provides a mechanism for addressing issues of social justice. This can take many forms varying in the extent of stakeholder involvement (E.g., communication of decisions, transparency of the decision-making process, and involvement of stakeholders in designing policies and selecting preferred options, as in multi-criteria analysis). The research should present a critical review of best practice, citing examples, and referencing key sources of information.

- The practice of appraisal and use of cost-benefit analysis (CBA) in decision-making. According to Green Book guidance, a policy is considered ‘worthwhile’ if the aggregate of benefits exceeds costs. The emphasis is on economic efficiency at the national level and little or no account is taken of the distribution of benefits and costs. The research should review the implications of social justice for appraisal and CBA, and consider whether it is possible to identify questions, checklists and/or decision-rules that policy-makers may use in consideration of social justice? For example, according to a Rawlsian perspective on social justice, policy should follow a maximin principle, delivering greatest advantage to the least advantaged members of society. The research should note that, in flood and coastal erosion risk management, there are efforts to develop templates and guidance to disaggregate benefits and costs and present a clearer picture of their distribution. It is not clear how this information will be used, and what constitutes an optimal distribution.
- § Use the understanding of best practice to provide a critical review of current practice in EDG DEFRA (and its delivery agencies) with recommendations for change, citing relevant examples, key references, legal constraints, etc. This should include consideration of the following questions: Does current appraisal practice adequately account for social justice? What further evidence should be presented to policy-makers regarding the distribution of costs and benefits, and how should this be done? Are policy options considered that mitigate against adverse distributional outcomes, such as compensation? Does EDG DEFRA follow best practice in public engagement?
- § Consider the relevance of issues of social justice to policy areas in EDG, DEFRA, and identify those policy problems where social justice is most relevant. The research should apply a filtering process considering initially all policy problems in the directorate but, subject to clear criteria, rapidly filter out those problems where social justice is a key issue.
- § Apply the principles and evidence gathered to a specific policy problem in EDG, DEFRA, with the aim of generating evidence-based policy recommendations and demonstrating the practical policy value of the project. The selection of the case study is to be discussed and will be informed by the research. One option concerns managed realignment of coastal defences. In some cases, it is cost-beneficial to realign coastal defences inland. However, this inflicts significant costs on those householders and landowners whose property will be lost, and has generated a strong sense of injustice amongst those affected, and some political pressure. DEFRA is currently considering how some of these costs may be mitigated. One option for this research is to build on this work. The nature of the research will depend on developments in that project, and the quality of evidence and status of policy development.

Method

Primary research is not expected. The principal methodologies should include;

- § identification, review and synthesis of a wide literature, including academic literature and government reports, policy documents and appraisal guidance and reports.
- § structured engagement and consultation with a range of practitioners involved in public policy-making. As social justice is not well-understood and formal guidance is limited, researchers must be able to identify key people and have the skills to illicit the relevant

information and resources. Some structured interview and elicitation methods may be appropriate

Final outputs

The precise number and format of outputs are to be discussed. The aim should be to publish all or most outputs on a dedicated EDG DEFRA webpage.

- § A substantive report setting out best practice in addressing social justice in policy development, with details of all supporting theory and evidence. This largely meets objectives set out in bullets 1 and 2 above, is targeted at all policy-makers across government with a willingness to engage in theory and evidence. The objective should be to disseminate as widely as possible. This should include a link from the Green Book HMT webpage.
- § Guidance which is short and accessible, and focuses on the implications of the report for policy development (i.e., without supporting evidence, etc). This is targeted at any policy-maker across government. The objective should be to disseminate as widely as possible. This should include a link from the Green Book HMT webpage.
- § A report containing critical review of EDG DEFRA practice in addressing social justice with recommendations for change, drawing on the best practice guidance, and identifying the policy issues where social justice is most relevant. This largely addresses bullets 3 and 4 above and is targeted at policy-makers in EDG DEFRA.
- § A discrete output containing the ‘application’ referred to in the final bullet above. The format is to be discussed. The structure should resemble the RIA-format prevalent in government. It is targeted at the relevant policy-holders in EDG DEFRA.
- § Presentations. The contractors will present findings to a DEFRA and Whitehall audience, as appropriate. The number and focus of presentations is to be discussed.

Appendix B. Report on Focus Group Discussions

B.1. Introduction

To begin to explore public reaction to the kinds of principles discussed in the main Report, two focus groups were conducted in Norwich on Thursday 12th July, moderated by Professor Graham Loomes. At the end of this Appendix, the materials provided to those groups are reproduced. Below, the key features of the procedure are described and the main issues arising from the discussions are summarised.

Eleven members of the public attended, six in the first group and five in the second. All were drawn from a list of people who had volunteered to participate in social research at the University of East Anglia. Overall, their ages ranged from 27 to 67, with each group involving age spreads of at least 25 years, and there was a mix of genders in both groups: 4 female and 2 male in the first group, 2 female and 3 male in the second group.

Each group began with the moderator talking through the introductory sheet (headed Principles of Environmental Policy), indicating that what Defra were principally interested in were people's views about "principles rather than details", and that these were going to be discussed in the context of three scenarios. Those scenarios were: aircraft noise; coastal erosion and flooding; and a site for a new waste incinerator. There was a sheet of questions / issues for each scenario. There was also a sheet raising questions about policy across countries and across generations.

The questions and issues listed on those sheets were based on the discussion in the main Report, and in particular were formulated on the basis of sections 3.3 to 3.7 inclusive.

Given the desire to focus on principles, the moderator considered it prudent *not* to begin with a discussion of coastal erosion and flooding: the first of these is an issue that can arouse strong feelings in Norfolk, and the second had been the subject of considerable recent/current news coverage, in the light of the heavy rain in June and early July. These issues were discussed by both groups *after* an initial discussion of aircraft noise nuisance had tried to establish the idea of "principles rather than details".

B.2. The Group Discussions

Most people in Norwich are not seriously affected directly by aircraft noise, while at the same time being aware that Norwich airport is expanding and that the projected expansion at Stansted is liable to be significant. They may therefore be more likely to have a 'beneficiary' perspective.

Having said that, no-one dissented from the proposition – made by members of both groups – that air traffic was expanding too fast and was too cheap. Air pollution was mentioned as a more significant by-product than noise – affecting more people. There was some uncertainty about what measures already existed to offset aircraft noise nuisance – that is, whether there were grants for sound insulation, etc. It was noted that there were difficulties in unscrambling the disadvantages of living near an airport and the advantages – easy access to flights, employment opportunities, cheaper housing. On the other hand, no-one dissented strongly from the proposition that anyone who owned property before the noise nuisance

could reasonably have been anticipated should be compensated for any reduction in resale value (although one person suggested that the ‘compensation’ should be in the form of sound insulation – but acknowledged that gardens and other outside areas couldn’t be insulated). However, no-one who could/should have known about the noise should be compensated – other than help with sound insulation, perhaps.

There was broad support among members of both groups for the idea that the costs of any compensation should fall on the users of air transport through flight taxes (and someone wondered whether this might already be the case). A couple of people suggested capping the number of flights – in one case, it was suggested that particular airports might refuse to handle planes that were noisier than some standard, in order to give the aviation industry an incentive to invest in quieter craft. Whether noise was restricted by regulations on craft and flights or discouraged by taxes, it was recognised that there might be undesirable consequences: flights would become more expensive, harming leisure users more than richer people and people flying on business expenses; and restrictions on expansion might have adverse effects on employment and tourism. The need for some balance was recognised, but there was no discussion of how the various effects might be assessed and how some balanced solution might be reached.

Overall, then, in relation to aircraft noise nuisance, there appeared to be good support for the principle that the polluter should pay and that those who had the externality imposed upon them without being reasonably able to anticipate it should be compensated for any loss. Those that could reasonably have anticipated the nuisance and who might be deemed as accepting it in order to obtain compensating benefits – employment, cheaper housing, etc. – were not thought to be deserving of (much) compensation. The tricky issue of how levels of tax and/or compensation should be set and how these should be distributed was not addressed by group members.

Both groups then turned to the sheet posing questions about coastal erosion and flooding. These were taken as separate and rather different issues – which seemed to accord with the perceptions and reactions of group members.

First, coastal erosion. There appeared to be acceptance that coastal erosion – in East Anglia, at least – was largely due to nature and not so much due to human activity (global warming), though the latter might speed it up. There was *some* feeling that even before more recent abilities to project erosion patterns, people who chose to live near the sea and get the advantages of doing so ought to have realised there was at least a possibility of erosion. But more members of these groups subscribed to the idea that anyone whose property had been acquired a long time ago should be entitled to be rehoused in a place of comparable value to their property before erosion threatened it, and that this should be paid for by the community at large – regarded as the appropriate social response to fellow citizens affected by a natural disaster. More recent arrivals and people with second homes were less (or not at all) deserving of compensation, if they could have found out about the risks. There was little sympathy expressed for the idea that people might struggle to acquire/interpret the relevant information – individuals moving into any area/property had a responsibility to check for any such risks.

There was also little support for central funding of sea defences: if provided/maintained, there was some feeling that the costs should be borne by the local communities – fighting a losing

battle against nature and/or displacing the erosion to another part of the coast was not seen as a sensible policy. There was some criticism of local authorities for granting planning permission in areas at risk – and even (it was alleged by one group member) funding ‘regeneration’ building at sites which were likely to be endangered. This latter might encourage citizens to believe that the local authority, having invested in building, would then build defences – so that others would invest in endangered properties, either increasing the pressure to spend on the defences or else increasing the losses if the defences were not maintained.

(Inland) flooding was seen as a more complex issue. First, there were questions about the extent to which it was an insurable risk: it was unclear to some group members whether some of those who were reported to have been uninsured were simply unable to get insurance or had just chosen not to buy it. However, there was little sympathy for the idea of compensating those who had failed to take available insurance – being ‘too poor’ to afford it was not a persuasive reason for participants in these groups.

There was some feeling in both groups that public authorities could do more/better in various ways. The building industry and the planning permission process were criticised for allowing too much building in at-risk areas and failing to adopt building specifications which would at least limit the damage in the event of floods: e.g. by using particular kinds of plaster, tiling floors, placing power sockets higher up walls, etc. Potential house buyers had a responsibility to check out the risks, but planning authorities also had a responsibility to protect their interests. When discussing the difficulties of communicating risk, one group member suggested a ‘traffic light’ system of categorising flood risks. This seemed to receive general approval, although the questions of where the dividing lines should be drawn and who should be responsible for implementing/enforcing such a system were not discussed in detail. In addition, there was some sympathy for the view that in the end there was always some risk from natural forces, and that the responsibility of government to bale people out was limited – a couple of group members expressed dislike of what one of them referred to as the ‘compensation culture’.

While ‘nature’ was regarded as playing a major role in coastal erosion and flooding, the question of where to site a new waste incinerator was clearly recognised as a ‘human activity’ issue.

Predictably, perhaps, not all group members were willing to buy into the invocation to set aside (for the purposes of discussion) the longer-term alternatives to incineration, and for one group member ‘compensation’ sounded like bribery to accept a policy that she disagreed with: she believed that individuals/households had a responsibility to limit/recycle their waste and she favoured a system where some ‘standard’ allowance (say, a standard waste bin) was included in the basic rate of council tax, and then fines or discounts were used to provide incentives. The principle of rewarding effort and penalising poor environmental performance appeared to be received sympathetically; certainly, no-one dissented.

However, on the issue of locating an incinerator (on the assumption that in the short/medium term at least, one needed to be built), there were a number of diverse views and there was no obvious consensus. One participant voiced the view that if the incinerator benefited the whole community, no compensation was required. Others recognised that most people would not want it in their back yard. Respondents did not talk much about economic solutions

involving compensation, but proposed various political, more procedural approaches, such as a local referendum, or allowing elected politicians to get on with the job – although it was acknowledged that wealthier groups were likely to be better organised to exert pressure to divert the incinerator away from their own location and that low-income people were more likely to get it in their neighbourhood. Participants appeared to accept this as a reality but were not all comfortable with it, one expressing the view that the strong should look after the weak financially, and it was suggested that an ombudsman or other impartial body should make the decision – although the criteria to be used were not articulated.

In the event, only the second group got on to issues relating to other countries and other generations – and in fact, as it turned out, the focus was exclusively on the latter.

The usual caveat about focus groups – that the numbers are too small and the self-selection bias too great for them to be regarded as representative – should be borne in mind here. This was a largely childless group, and one member expressed the view that the best thing to do for future generations was to not reproduce. This individual took a somewhat Malthusian view of the future, and there was some discussion about the merits of limiting any couple to one child, as in (some parts of) the People's Republic of China. There was less dissent from this view than might be expected from a group containing people with several children, perhaps.

Two other themes emerged. One was that we (the present generation) are having to deal with whatever legacy we inherited from previous generations and that we don't hold them particularly responsible or blameworthy for what they did; and in any case, there is nothing we can do about that, except deal with the situation now.

Related to that, perhaps, but looking forward, there was some feeling that while people might naturally want to protect their children's interests, there are too many uncertainties to allow us to be confident about whether we are targeting our efforts appropriately. The rate of technological change is such that there are things now that were unimaginable a hundred years ago. So on the one hand, it is difficult to know how much damage we are doing that will be inflicted on future generations; on the other hand, we could spend billions on one thing and "something entirely unpredictable could happen". Within this group, there was little dissent from the idea that each generation should operate in the way it sees best (although this did not necessarily mean that it should operate entirely selfishly), that because of all the unknowns and uncertainties there might be no point in trying to look much more than 50 years ahead, and that future generations will evolve to deal with whatever the problems are then. (Again, the Malthusian/Darwinian perspective of one individual was probably quite influential in this discussion.)

B.3. Concluding Remarks

The focus groups were intended to be a first pass at seeing whether members of the public were willing and able to engage with some of the principles of social justice identified in the main Report. The indications – preliminary and tentative though they must be regarded – are that such engagement is certainly possible; and so far as one is able to say on the basis of just two groups, the kind of approach summarised in section 4.2.1 of the main Report could well receive broad public endorsement.

As always with an exploratory qualitative study, questions remain. It was not possible to get both the coverage of different scenarios and also to explore more detailed issues concerning the levels of payment and compensation and the more precise criteria. Likewise, the discussion of how to apply social justice to future generations might have benefited from more input by people with children.

Overall, however, there would appear to be good potential for further consultation with members of the general public, were Defra to wish to undertake such consultation on the basis of the conclusions of this Report.

Materials Presented to the Participants

Principles of Environmental Policy

The Department for the Environment, Food and Rural Affairs would like to know what principles members of the public believe should guide public policy towards the environment.

The discussions this evening will take various scenarios as a starting point for considering different possible points of view. These scenarios are stylised and simplified in order to focus the discussion on **principles rather than details**.

If we have time, we will look at three scenarios and one more general set of issues:

Aircraft noise

Coastal erosion/flooding

A site for a new incinerator

Policy across countries and across generations

Aircraft Noise

The number of flights and the number of airports/runways is growing.

Gainers: airline companies; people who work for the airlines/airports; international business; individual travellers and family holidaymakers.

Losers: people who live under flight paths; whoever is adversely affected by any global warming due to air travel.

Is the fact that some people gain and some lose 'just how life is'?

Or should the gainers pay for the noise nuisance and pollution?

If so, how much? And who to?

Should the losers get compensated? If so, how much?

Or are they already getting the benefit of cheaper housing / lower rents?

Should those who chose to **move into** an area under a flight path be treated differently than those who **already lived there** before extra flights / new runways brought extra / new noise?

Coastal Erosion and Flooding

Should these be treated the same way or differently? Come back to that ...

In East Anglia, coastal erosion has been going on for centuries – long before any global warming. Sea defences cannot stop it: they can slow it down in some parts (but may just speed it up in other parts).

Gainers from sea defences: Those whose properties/livelihoods are at risk and are protected (for the medium-term, at least).

Losers: Whoever has to foot the bill; plus possibly residents in other areas where erosion is accelerated by being deflected.

There is no general **requirement** on government to provide defences against (or in reality, to slow down) coastal erosion: should there be?

Or should it be a matter for the people who benefit from sea defences – those whose properties are affected – to pay most/all of the costs?

Should this apply to all beneficiaries? Or should people who bought / inherited properties acquired **before the risks were known** be treated differently than those who **could have found out** the risks before they bought?

Do the same principles apply to inland flooding?

Some areas may be more at risk than others, and there is information about this available to any prospective property buyer: is this all the action government should be expected to take?

In higher-risk areas, insurance costs more but house prices are liable to be correspondingly lower: does that even things up?

Does government have any additional obligations in the event of actual flooding?

Finding a Site for a New Incinerator

Incinerators are considered to be 'lesser evil' ways of dealing with waste disposal. Set aside for the moment questions about whether other policies (recycling, reducing packaging, etc.) may be better in the long-term, and focus on a medium-term decision to build a new incinerator.

Gainers: The community at large producing the waste that has to be disposed of.

Losers: People in the vicinity of the new incinerator are liable to suffer. Possible effects: *maybe* health; probably lower house prices and rents.

Assume initially NO bad health effects, just nuisance and lower property prices and rents

Two areas have been shortlisted. The benefits are the same for both. One is in a poorer area, lower property prices, fewer house owners, more rented property. The other is a more affluent area, fewer households, but a bigger proportion of owner-occupiers.

Should the decision be made simply on cost – go for the area which costs less?

Should those costs include compensating property owners? Does this mean ALL property owners, including businesses and landlords? Or just owner-occupiers?

How should any compensation be worked out?

What about people renting, whose rents may fall? Is that compensation enough?

What if there would be some small extra risk of adverse health effects? Should that be costed? Should it be compensated? If so, just for people in the area at the time the decision is taken? Or also for anyone who moves into the area afterwards?

Other Countries and Other Generations

Should we treat people in other countries differently than people who live in the UK?
If so, in what way(s)?

For example:

If people in a poorer developing country are willing to accept pollution or waste or living conditions we do not want, should that be seen as mutually beneficial on the grounds that they are adequately compensated (by their standards) and we are willing to pay to reduce the problem to us. Is that OK? Or if not, what should be done?

Is it any better / worse than having people in the UK with less education and/or fewer skills getting paid less than people with more education/skills? Or having richer people pay poorer people to do the things they don't want to do (e.g. housework, child care)?

What balance should we strike between present and future generations?

Should we regard people who are not yet born as having the same citizen rights as people who already exist? Should we pay to reduce activities that don't affect us much and will mostly impact upon future generations? Or should we take into account that people in the future will have more advanced technology and higher incomes and can probably afford more to invest in the environment?

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