Environmental justice and the distributional deficit in policy appraisal in the UK

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Abstract
Environmental justice brings a particular set of concerns to the policy process in asking not only what the environmental impacts of a new policy, programme or regulation might be, but also how these impacts are likely to be distributed across different social groups. This letter evaluates the extent to which appraisal tools currently used to inform environmental and related decision-making in the UK incorporate the analysis of such distributional effects. It reports on research that assessed the existence of requirements for distributional analysis across 16 different appraisal tools, the depth of guidance that is provided for those using the tool and the scope of its coverage. It is concluded that there is distributional deficit in current policy and impact appraisal tools, particularly in the context of the breadth of definition of environmental justice being applied in the UK and the range of population groups with which this is concerned. Only in the health area and in the use of health impact assessment can more positive conclusions be reached. Research evaluating the use of tools in practice is needed and a number of steps to improve on the current situation are discussed.

Keywords: environment, justice, appraisal

1. Introduction

Environmental justice provides a framework for examining questions of inequality, justice and fairness in an environmental context (Schlosberg 2007, Ageyman et al 2003). Grassroots protest has been central to environmental justice activity and has often been concerned with the outcomes and consequences of public policy measures, calling for policy reform to address inequalities and injustice (Bullard 1999, Eady 2003, Stephens et al 2001). Whilst there are many dimensions to making environmental and related policy more ‘just and fair’, one important element is the availability and use of policy appraisal tools. Such tools have become routinely used within policy making, either because of legislative requirements, or as part of expected good practice within government departments and agencies. Whilst many questions have been asked about the form, implementation and politics of appraisal tools (Owens et al 2004) they do have the potential to ensure that policy is made on a more informed and transparent basis and that important societal concerns are examined and evaluated before decisions are taken.

Environmental justice brings a particular set of concerns to the policy process, in asking not only what the environmental impacts of a new policy, programme or regulation might be, but also how these impacts are likely to be distributed across different social groups (Chalmers and Colvin 2005). If policy appraisal tools identify and analyse distributional effects these can, in principle, be fully evaluated and the case for avoiding socially regressive environmental impacts and promoting progressive ones can be made. Using evidence revealed through such policy appraisal, policy makers, campaign and protest groups, amongst others, can then argue the case for promoting greater environmental justice. If distributional impacts are not included in the rubric of policy appraisal tools,
such effects will not be fully examined and policy decisions may be repeatedly and unknowingly implicated in the creation, fostering or maintenance of environmental inequalities.

Given the potential importance of policy appraisal for understanding and addressing environmental (in)justice, this letter evaluates the extent to which appraisal tools currently used to inform environmental and related decision-making in the UK incorporate the analysis of distributional effects. It reports on research that assessed the existence of requirements for distributional analysis across 16 different appraisal tools, the depth of guidance that is provided for those using the tool and the scope of its coverage.

The research discussed in this paper was initially completed for Friends of the Earth (England and Wales) who were concerned to both find out about the range of policy appraisal methods that could be relevant to environmental justice concerns and the extent to which distributional analysis was being performed (see Walker et al 2005 for further details of the research project). The research involved a desktop search of relevant academic literature, published reports and other information from government and official websites, along with discussion with personnel in Friends of the Earth and a number of other organizations involved or interested in the development of policy appraisal methods. This material was then collated, synthesized and analyzed, focusing on distributional analysis elements. Subsequent to the completion of the initial research, further updating and extension of various aspects of the analysis has been completed.

2. Forms of impact assessment

The past decade has seen a mushrooming of impact assessment methods and tools in the UK. Some of these have evolved from early versions and experiences of requirements to undertake environmental impact assessment (Wood 1995). Others have their origin in the cost–benefit appraisal techniques used to test the cost-effectiveness of government, regulations, policies and investments. Two, to an extent, opposing trends can be observed in the evolution of policy appraisal. On the one hand we have seen the emergence of impact assessment tools targeted on particular policy issues or the interests of particular groups (e.g. consumers or women). On the other hand we have seen the development of various integrative tools which attempt to make a more all-encompassing and holistic appraisal of policy impacts, sometimes within a sustainability framework, a development that has not gone without some criticism (Lee and Kirkpatrick 2000, Scrase and Sheate 2002, Bond et al 2001).

For the research reported in this letter 16 different forms of impact assessment were identified, all of which are applied to some degree in the UK and could be of relevance to environmental justice distributional analysis. This large number of different tools in part reflects the breadth with which environmental justice has been interpreted in the UK and the range of concerns that have been incorporated (Bulkeley and Walker 2005). Issues of pollution and risk, access to water and energy resources, flooding, transport, food, health and economic regeneration have all been included within an environmental justice framing (Friends of the Earth 2000, Mitchell and Walker 2003, Lucas et al 2004, Fairburn et al 2005). Questions of distributional justice have been examined primarily in relation to dimensions of class and deprivation, but also those of ethnicity, race, gender and age at local through to global scales. Questions of impact on future generations have also been raised in the context, for example, of climate change policy (Stephens et al 2001, Ikeme 2003).

The 16 selected forms of impact assessment are listed in table 1 in four groups according to their primary orientation—environmental, social, economic or integrative. These categories are not intended to suggest that the assessment method is limited only to this orientation, but that there is a primary focus or origin of the assessment method which shapes its form and utilization.

Table 1 indicates the policy status of each of the methods (as of the end of 2006) indicating whether there is a ‘statutory requirement’, an ‘official policy requirement’ or simply a policy endorsement advising its use. ‘Statutory requirement’ is where a legislative or regulatory measure requires that an impact assessment is undertaken. An ‘official policy requirement’ is not backed up by legislation but does have a clear status in that the government states it will apply the tool when formulating new legislation, regulations or policy. ‘Advisory policy’ is where a method has been endorsed as useful in government policy or guidance documents, but there is no clear commitment to its use on a recurrent basis.

Only three of the methods—environmental impact assessment (EIA), strategic environmental assessment (SEA) and sustainability appraisal (SA) in England only—have a statutory status, making these particularly significant. EIA has to be undertaken for certain categories of development projects and there has been much debate about the quality of the assessments undertaken and the rather mechanistic culture that has evolved around what has become a business requirement (Lee and Colley 1991, Weston 1998). SEA applies to plans, policies and programmes but in practice has to be undertaken for certain cases of these (Therivel and Walsh 2006). Sustainability appraisal was originally introduced as a tool recommended for use in land use planning, but since 2006 has been taken up in England as the way in which legal requirements of SEA legislation are to be implemented (Therivel and Walsh 2006).

Seven forms of impact assessment have a status as being part of official policy. The four methods in this category with an economic orientation are closely related and, because of their backing by the Treasury (the most powerful player amongst government departments), there is strong pressure for them to be used on a rigorous basis across government. For example, regulatory impact assessment (RIA) has to be routinely carried out for all new legislative proposals, whilst the ‘Green Book Guidance’ lays down how all public investment proposals and options should be appraised and evaluated.

The remaining six methods either have an advisory status or, in two cases, have no recognized status within government at all. Well-being impact assessment has recently emerged as a variant of health impact assessment, picking up on the ‘well-being’ term now being attached to much local government


| Impact assessment tool                                      | Focus of assessment                                                                 | Statutory requirement | Official policy | Advisory policy | Profile for distributional analysis | Guidance on distributional analysis |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------|----------------|----------------|------------------------------------|------------------------------------|
| **Environmental orientation**                               |                                                                                     |                       |                |                |                                    |                                    |
| Environmental impact assessment                             | Environmental effects of a development proposal, and potential mitigation options     | Yes                   | Low            | None           |                                    |                                    |
| Strategic environmental assessment                          | Environmental and sustainability implications of strategic policies, programmes and plans | Yes                   | Low            | Little         |                                    |                                    |
| **Social orientation**                                      |                                                                                     |                       |                |                |                                    |                                    |
| Social impact assessment                                    | Impacts a proposed action will have on the life of individuals and communities       | Medium                | Some           |                |                                    |                                    |
| Health impact assessment                                    | Health effects, positive and negative, of a project, programme or policy              | Yes                   | Yes            | High           | Substantial                        |                                    |
| Health equity audit                                         | Impacts on health inequalities of a project, programme or policy                      | Yes                   | High           | Substantial    |                                    |                                    |
| Well-being power and WB impact assessment                   | Impact of a local plan or project on community well-being                             | High                  | Little         |                |                                    |                                    |
| Gender impact assessment                                    | Relative impact of a policy or practice upon men and women, respectively              | Yes                   | Medium         | Some           |                                    |                                    |
| Equality impact assessment                                  | Impact of a policy on different groups in relation to religious belief, political opinion, racial group, age, marital status, sexual orientation and disability and dependence | Yes (in Northern Ireland) | High           | Substantial    |                                    |                                    |
| **Economic orientation**                                   |                                                                                     |                       |                |                |                                    |                                    |
| Regulatory impact assessment                                | Impacts of policy options in terms of costs, benefits and risks of a proposal         | Yes                   | Yes            | Medium         | Some                               |                                    |
| Green book guidance                                         | The combined economic, financial, social and environmental impacts of a policy, programme or project involving public investment | Yes                   | Yes            | Medium         | Substantial                        |                                    |
| Assessment of impacts of spatial interventions              | The combined economic, financial, social and environmental impacts of spatially targeted interventions | Yes                   | Yes            | Medium         | Some                               |                                    |
| Consumer impact assessment                                  | Whether markets and public services are working in the consumer’s interest            | Yes                   | Medium         | Little          |                                    |                                    |
| Transport analysis                                          | The prioritization of transport investment proposals by comprehensive analysis of the full range of impacts | Yes                   | Yes            | Medium         | Substantial                        |                                    |

activity. Social impact assessment, despite having a long pedigree (Becker 1997) and being part of government policy in other countries, has not achieved any status with government in the UK (Chadwick 2002). Integrated policy appraisal was originally developed by the Department of Environment, Transport and the Regions. A ‘good practice tool’ was
produced, refined and piloted across government, but after this pilot a decision was taken not to endorse its use on a routine basis (House of Commons Audit Committee 2004).

3. The profile of distributional analysis within appraisal tools

For the purposes of this research the first criterion for evaluating each appraisal tool is the extent to which it includes any form of distributional analysis within its principles and processes as judged from key documents or guidebooks that lay down the processes and procedures to be followed. Column 5 of table 1 shows for each method the profile given to distributional analysis, categorized into high, medium and low profile.

Whilst this assessment of the profile of distributional analysis for each method is open to a degree of judgement, there are only three methods in which distributional analysis has a ‘high’ profile—health impact assessment (HIA), health equity audit (HEA) and equality impact assessment. In each of these cases there is a strong ethic or principle underlying the method which focuses on analysing and addressing inequalities. Health inequalities have become a major focus for health policy in the UK (Taylor and Quigley 2002) and from a starting point of anti-discrimination legislation.

The three methods with a statutory status give a low profile to distributional analysis—EIA, SEA and sustainability appraisal. EIA is most fundamentally lacking any inclusion of distributional elements. The treatment of socio-economic aspects has been highlighted as a general weakness of the implementation of EIA in the UK (Glasson and Heaney 1993) with a lack of best practice guidance and cursory treatment in many environmental statements. In terms of any distributional element, a rigorous analysis of 110 environmental statements submitted in 1993–98 found that none of these even mentioned the potential distributional effects of the project involved (Chadwick 2002) SEA practice is still evolving and it has been argued that strong links could be made between SEA and environmental justice principles (Connelly and Richardson 2005). However, the European Directive from which it is derived does not explicitly note any concern for the distribution of environmental impacts across populations and guidance produced in the UK does not provide a strong steer in that direction, although implementation in Scotland is more ambitious (Jackson and Illsley 2006).

The remaining methods (rated as medium profile) all include some form of distributional analysis as an element of the appraisal which it is expected will feature when the method is applied. However, the focus on distribution or inequality is not fundamental to the method in the same way as it is for those in the high profile category.

4. Quality and depth of guidance on distributional analysis for environmental issues

Whilst many of the methods do therefore include some expectation that distributional analysis will be performed, we need to consider to what extent this is addressed to environmental concerns, rather than established economic or social matters, and the quality of the guidance on undertaking distributional analysis available to those carrying out the appraisal. The sixth column in table 1 indicates, for each of the assessment methods, a qualitative judgement on the quality and depth of guidance provided on how to undertake distributional analysis. In order to arrive at this judgement key guidance documents for each tool were examined and relevant sections on distributional analysis were identified and scrutinized.

In six cases—HEA, HIA, equality impact assessment, Green Book, transport analysis and IPA—substantial and fairly detailed guidance on how to do distributional analysis is available. In the best cases this guidance includes a discussion of the qualitative and quantitative approaches that can be taken, the types of social variables to be examined, data sources, analysis methods and the difficulties and limitations that invariably materialize. However, in only two of these cases does this guidance provide examples or discuss any issues involved in undertaking distributional analysis specifically in relation to the environment. The guidance material that

| Impact assessment tool | Focus of assessment | Statutory requirement | Official policy | Advisory policy | Profile for distributional analysis | Guidance on distributional analysis |
|------------------------|---------------------|-----------------------|----------------|---------------|-------------------------------------|-----------------------------------|
| Integrative orientation |                     |                       |                |               | Low                                 | Little                            |
| Sustainability appraisal | The extent to which the implementation of a plan or strategy would achieve the environmental, economic and social objectives by which sustainable development can be defined | Yes (in England) | Yes | Yes | Low | Little |
| Integrated policy appraisal | All the potentially significant impacts of a policy proposal addressing these at the same time | Medium | Substantial | | | |
Table 2. Population groups covered by impact assessment tools. (Note: ✓ = group explicitly mentioned in guidance; ? = could infer/interpret that group is covered by assessment tool; blank = group not mentioned explicitly or by inference.)

| Impact assessment tool                        | Deprivation or income | Gender | Age  | Ethnicity | Disability | Vulnerable groups | Future generations | People in other countries |
|----------------------------------------------|-----------------------|--------|------|-----------|------------|-------------------|--------------------|--------------------------|
| Environmental impact assessment              |                       |        |      |           |            |                   |                    |                          |
| Strategic environmental assessment           | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ☐                  | ✓                        |
| Social impact assessment                     | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ☐                  | ✓                        |
| Health impact assessment                     | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ☐                  | ✓                        |
| Health equity audit                          | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ✓                  | ✓                        |
| Well-being power and WB impact assessment    | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ✓                  | ✓                        |
| Gender impact assessment                     |                       | ☐      | ☐    | ☐         | ☐          | ☐                 |                   |                          |
| Equality impact assessment                   | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ✓                  |                          |
| Regulatory impact assessment                 | ✓                     | ☐      | ☐    | ☐         | ☐          | ☐                 | ✓                  |                          |
| Green book guidance                          | ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |
| Assessment of impacts of spatial interventions| ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |
| Consumer impact assessment                   | ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |
| Transport analysis                           | ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |
| Sustainability appraisal                     | ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |
| Integrated policy appraisal                  | ✓                     | ☐      | ☐    | ☐         | ☐          | ✓                 | ✓                  |                          |

5. The population groups included

A particular issue in assessing the scope of the distributional analysis that could be taken within each policy appraisal method relates the population groups that are expected to be the focus of the analysis. As discussed earlier environmental justice, as interpreted in the UK by activist groups, covers a wide range of social and demographic parameters as well the international dimension of how people in other countries can be affected by policies pursued in the UK, and the intergenerational dimension of impacts on future generations. In table 2 eight different ways of defining population groups are listed—in terms of deprivation or income, gender, age, ethnicity, disability, vulnerability, generation and country. Where a tick is given in this table there is an explicit mention of the population group in the guidance. Where a question mark is indicated there is something in the guidance which could be interpreted or inferred as covering the population group. For example, a reference to considering differential impacts over time can be interpreted as enabling the inclusion of intergenerational distributional impacts, even though these might not explicitly be mentioned.

Emphasis given to the groups varies across the methods. With a few significant exceptions most methods incorporate the key social/demographic parameters within distributional analysis—deprivation, age, gender, disability, ethnicity. The more general notion of ‘vulnerable people’, related usually to potential health impacts, is also included in most of the methods. Here the emphasis is on the need to identify ‘vulnerable groups’ who may be particularly susceptible to impacts (for example from air pollution) due to pre-existing health, social or demographic characteristics.

The last two columns on the table are the most empty and show that very few methods implicitly or explicitly recognize the need to take account of spatially distant populations or potential impacts on future generations. Only three methods explicitly mention or infer the inclusion of impacts on people in other countries. For SEA the driving factor is the transboundary dimensions of EU legislation, although this is usually seen as of little significance to the UK due to our island status. However, within the SEA legislation if
significant transboundary impacts are possible then the SEA assessors have to inform the Secretary of State who then liaises with the impact country, ensuring that the UK SEA is integrated within the other country’s SEA process. Whether or not this provision could be used to explore impacts that are not directly transboundary, but relate, for example, to more globalized north–south concerns or impacts arising through climate change on other parts of the world, is uncertain.

The Green Book also refers to impacts on people in other countries, but directs that these should be seen as less relevant than impacts on people in this country. In section 5.25 footnote 4 of the Green Book it states that ‘all impacts (including costs and benefits, both direct and indirect) on non-UK residents and firms should be identified and quantified separately where it is reasonable to do so, and if such impacts might affect the conclusions of the appraisal. Generally, proposals should not proceed if, despite a net benefit overall, there is a net cost to the UK (for instance, after taking into account environmental costs).’ The last sentence makes it clear that it is the cost to the UK which is the dominant consideration, even if there are benefits outside of the UK which balance or outweigh these.

Transport analysis incorporates impacts on people in other countries and states that in some cases these will be particularly significant. The example given is superficial, relating to airports and ports where the user benefits from a public transport scheme to connect to the facility may substantially benefit travellers and tourists from abroad. Here again, though, the provision could, in principle, be used to consider global and international environmental impacts through climate change and regional transfers of pollutants.

Only three methods explicitly refer to future generations. The Green Book, RIA and transport analysis use similar cost–benefit techniques which directly incorporate impacts over time through the application of discount rates. Guidance in the Green Book explicitly refers to future generations and discusses some of the issues involved and the approach that can be used to calculate net present values (converting all present and future cost and benefits into a common metric). However, the RIA guidance also states that the period over which discounting is applied is usually 10 years, which is too short for incorporating substantial intergenerational impacts.

6. Conclusion

The research reported in this letter was able to identify 16 appraisal tools that could in principle be used to examine how the environmental impacts of policies, plans, programmes, regulations and legislation are socially distributed. In most of these cases some recognition that distributional analysis is necessary and relevant is included in requirements or guidelines as to how the appraisal tool should be applied. However, it is very rare to find any mention of environmental, as opposed to economic or social, issues in guidance on how to undertake distributional analysis. Whilst the standard social or demographic groups are listed as the potential focus for distributional analysis, it is also very rare to find any mention of spatially distant populations or future generations. Most significantly, in the three forms of appraisal that are most directly focused on environmental concerns and which have a legislative status in the UK—EIA, SEA and SA—there is little or no profile given to distributional issues. Environmental impacts on people have to be assessed within these methods, but there is no expectation that a differentiated analysis of which social groups are likely to be affected is undertaken. It can therefore be concluded that there is distributional deficit in current policy and impact appraisal tools, particularly in the context of the breadth of definition of environmental justice being applied in the UK and the range of population groups with which this is concerned.

The review has been limited to examining processes and procedures and guidance documents for each of the appraisal tools. Whilst a first step it is necessary to go further to examine how distributional analysis is being applied in practice when appraisal tools are used, the quality of this analysis and the impact this may be having on decision outcomes.

Whilst as part of our review we sought some examples of appraisals that incorporated distributional analysis focused on the environment, these proved hard to find. Only in the area of health, where we have been more positive about the distributional scope of appraisal tools, could we identify examples of what are effectively environmental distributional analyses being relatively routinely undertaken. Examples include health impact assessments for a proposal to burn tyres in a cement kiln to replace coal in Rugby; for the Draft London noise strategy and the London Mayoral Strategies for transport, air quality, biodiversity and municipal waste management; and examples related to fuel poverty in Westminster and Wales. Whilst the treatment of distributional inequalities in these HIAs is rather rudimentary and often qualitative (confirming the assessments of Parry and Scully 2003 and Keem 2005), they do provide a starting point for impact assessment for environmental justice, at least where health issues are concerned. A more thorough analysis of a wider range of implemented policy appraisals could usefully be undertaken in future research. It could be, for example, that some distributional analysis is being included in appraisal processes, even though official guidance documents neglect this.

Based on the current analysis a number of steps needed to be taken to improve on the current situation. First, the assessment of distributional environmental inequalities needs to be integrated far more explicitly into the methods we have reviewed. Second, guidance on how to undertake distributional analyses in relation to the environment needs to be developed and improved. Distributional analysis is recognized as being difficult, complex and challenging, particularly when more in-depth quantitative methods are applied—rather than the more qualitative, participatory, checklist type approaches that are used in some impact assessment methodologies (Mitchell and Walker 2007, Liu 2001). Particularly important and challenging for this guidance would be the inclusion of international and intergenerational distributional analysis, which has to date received very little attention within the impact assessment literature.

Third, consideration should be given to the development of a new specific tool for environmental justice distributional
analysis. Developing such a method would have some advantages. It would highlight the importance and need for distributional impacts to be assessed for environmental concerns (rather than just the economic, social or health concerns that have dominated inequality debates to date). It would also allow specific and appropriate methodologies to be developed and applied which are directly suited to the analysis of environmental justice concerns and recognizing the complexities involved. However, given the number of impact assessment methodologies that already exist and the strongly institutionalized position that some of these already have, it is doubtful whether or not an entirely new methodology would achieve sufficient status to become routinely used—a proposal to introduce such a tool in the US in the 1990s fostered partly for these reasons (Foreman 1998). Its existence would, however, at least serve as a marker that important environmental justice concerns need to be given greater attention within public policy and decision-making processes.

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