

# Round table

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## What is the alternative? Impact assessment tools and sustainable planning

John F Benson

*This paper takes a critical look at environmental impact assessment (EIA), especially in the UK, and evaluates its strengths and weaknesses in terms of sustainable spatial planning. Of the many shortcomings and criticisms levelled at impact assessment, the paper concentrates on those elements considered crucial to a move towards sustainable planning, in particular the role of public participation, issues of alternatives and uncertainty, the problem of cumulative effects, the diversity of value systems, the issue of decision-making and the links from impact assessment into integrated environmental management. It concludes that the current European Union (UK) EIA system does not, and probably will not, without radical improvement, offer a tool for sustainable planning.*

Keywords: environmental impact assessment; sustainable planning; impact assessment tools

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"Impact assessment, simply defined, is the process of identifying the future consequences of a current or proposed action."

*International Association for Impact Assessment*

ENVIRONMENTAL IMPACT ASSESSMENT (EIA), since its birth in the National Environmental Policy Act of 1969 (NEPA) in the USA, has spread across the globe to the point that a regularised (and often regulated or legislated) system of EIA for project appraisal can be found in every continent and in very many countries. The supra-national European Union (EU) system is now well established in member states, having involved two Directives (85/337/EEC and 97/11/EC), although process, practice and experience vary among countries (Wood, 2002).

EIA has also spawned a wide range of alternative or complementary assessment tools, including strategic environmental assessment, cumulative effects assessment, ecological impact assessment, risk assessment, social impact assessment, health impact assessment and technology assessment (although these are less commonly regulated or mandatory). In many jurisdictions there are strong conceptual and procedural links between strategic environmental assessment (SEA) and plans or spatial planning (Department of the Environment, 1992), and an EU Directive on SEA has appeared recently (Directive 2001/42/EC), although it is unlikely that it will result in dramatic innovation in the UK, where the claim will be made that SEA (for plans) is already in place.

EIA has long been recognised as a potential tool for sustainability (Sadler, 1996; 1999). NEPA states that its purpose is "to promote efforts that will prevent or eliminate damage to the environment and

biosphere". Section 102 requires that US Federal Agencies "shall utilise a systematic, interdisciplinary approach", which "will ensure the presently unquantified environmental values may be given appropriate consideration in decision-making along with economic and technical considerations". It has therefore been argued that EIA (and SEA) are front-line instruments to promote sustainability, but it is acknowledged that certain process and methodological changes are necessary to improve their performance in this regard. Sadler (1999) states that:

"a framework and menu of options for what has been called 'environmental assessment for sustainability assurance' ... [is required] ... [A]ttempts to move EIA and SEA from processes to minimise impacts towards being processes that maintain the functions of natural systems, is a transition which calls for no net loss of natural capital and is consistent with the statement of purpose in ... NEPA."

This 'impact assessment' epidemic is not without its critics, however, and it has not always generated unalloyed pleasure. For example, the author of NEPA (Caldwell, 1998) has written that neither the declared principles nor the substantive sections of NEPA have been meaningfully implemented. Each tool or method, and the whole tool kit, has strengths and weaknesses (Glasson, 1999). The suite is based on a rational but restricted model of decision-making and opinions differ as to whether the tools are decision-informing or decision-making.

Since EIA is closely linked with, or is an integral part of, spatial planning, I examine the idea that it could become an important tool for sustainable planning by reviewing the weakness of EIA as currently practised in the UK. I start with brief remarks on the origins of EIA, before considering in turn its conceptual basis and several key features of sustainable planning, including public participation, alternatives, uncertainty, cumulative effects, value systems and decision making, before drawing conclusions.

## **Origins of EIA**

The quotation that opens this paper, from the International Association for Impact Assessment, hints that EIA is based on a very simple idea that is not novel. Similar claims, with longer pedigrees, can be made for almost all forward planning, land-use regulation, environmental legislation, cost-benefit analysis and related policies and procedures throughout the world, many pre-dating adoption of EIA by decades. However, the invention of EIA per se, as a legislated and regulated policy process, is attributed to the National Environmental Policy Act of 1969 in the USA (NEPA). By 1996, it had spread to more than 100 countries in six continents.

There is a general sense in which EIA is regarded as 'a good thing' — how could it be otherwise? — but the diversity that is EIA makes this a potentially dangerous generalisation. It may create a false sense that EIA is achieving more than it really does, or that it promises much whilst it delivers less (Weston, 2002). A critical and analytical view is necessary to probe behind the generalisations and the rhetoric.

## **Conceptual basis of EIA**

For most authors, EIA is seen as a rational and systematic process, perhaps also as holistic, proactive, anticipatory and integrated, but firmly located in the 1960s' demand for systematic and rational approaches to environmental planning (Lawrence, 2000). The 'idealised model' for EIA that appears in many texts has uncertain origins, but seems to be based on NEPA and the rationalist model. Despite this, there has been remarkably little written about the conceptual and theoretical basis of EIA. Lawrence (1997) argues the need for such theory-building, but what is remarkable is that he is writing almost 30 years after the implementation of NEPA. Weston (2000) is an uncommon example in attempting to relate EIA to more generic theories of decision-making.

At the rationalist end of the spectrum of behavioural decision-making theories, decision makers are assumed to be acting in an objective and value-free manner and basing their decisions on a systematic and largely technical assessment of the evidence. Such 'rationalism' can be traced to Weber and neo-classical economics. Administration and decision-making processes become systematised and routinised, and rules are used to ensure uniformity, which sounds remarkably like a summary of EIA under EU Directives. Weston points out that NEPA was dominated by rationalist concepts and language that continues to follow EIA around the world, despite later writing that recognises EIA as a 'science' and an 'art', that acknowledges 'disjointed incrementalism', 'mixed-scanning' and related theories of decision-making, and that places EIA firmly within the political realm of decision-making in planning.

Bartlett and Kurian (1999) provide a comprehensive typology of six implicit models by which EIA can be conceptualised and understood, contradicting any simplistic and rationalist model of the process. I believe we have a legislated and regulated system in the EU based on the rationalist model, in which few researchers or reflective practitioners believe.

## **EU Directives 85/337/EEC and 97/11/EC**

All EIA is also context specific. A comparative analysis by Wood (2002) has shown the wide international variation between systems. Wood evaluated

a range of systems against an idealised model and showed that the UK system (based on a *de minimus* implementation of Directive 85/337/EEC) was the weakest in an international spectrum of mature and embryonic systems; Directive 97/11/EEC has hardly changed things. Of the strengths, weaknesses, opportunities and threats to the UK EIA system analysed by Glasson (1999), the following key issues are relevant to a discussion of sustainable planning.

#### *Public participation*

There is probably universal agreement that participation (along with integration) is a necessary feature of all sustainable endeavour. The justification may be based on arguments for human rights, democracy and social justice (Pezzoli, 1997) or more pragmatic concerns about co-operation, lifestyle change and Nimbyism (Nimby — not in my backyard) (Petts, 1995). It is therefore remarkable that EU EIA is extremely weak on public (and statutory) consultation and participation (Glasson, 1999). Under Directive 85/337/EEC, formal consultation occurred (as of right) only after the assessment was completed — after alternatives had been rejected (if they were considered at all), after values had been expressed and significance had been judged and the results incorporated into an environmental statement, and when a decision was awaited and was time constrained.

Directive 97/11/EC fails to make significant redress (although member states are free to exceed the *de minimus* provisions of the Directives, as the Netherlands has done in terms of participation and independent quality control of the process). Arnstein's (1969) much cited "ladder of citizen participation" shows that even after more than 30 years of international EIA and after 15 years of EU EIA, current UK EIA practice on participation is modest at best and tokenism at worst. Because the EIA process is instigated, executed, paid for and controlled by the developer, there is little sense in which UK EIA involves genuine participation; it does not even begin to hint at the empowerment of local communities, and it is structured to inhibit any significant

improvements in this direction (of course individual developers, and individual EIA projects, may contradict this pessimistic diagnosis, but exceptions do not prove the rule).

#### *Alternatives*

EU EIA is also weak in considering alternatives, another integral feature of a move towards sustainable development. This weakness is inherent in any EIA that focuses on projects only, and is controlled by the developer; by the time the EIA is prepared, alternative sites have been rejected, alternative designs for sites or structures or processes have been rejected, and one key alternative (do nothing) is hardly on the agenda so far as the developer is concerned. SEA (see below) has been invented in part to address this issue.

#### *Uncertainty*

EIA cannot cope well with uncertainty and the precautionary principle, further key features of sustainable development. A model EIA requires that an assessment is explicit and balanced in recognising weaknesses in data and uncertainty in prediction, but research shows that this is a consistently weak feature of UK EIA practice (Glasson *et al*, 1997). Developers who universally seek approval for a project not unnaturally seek (or impose or require) certainty in an assessment.

#### *Cumulative effects*

These can include a variety of effects, such as cumulation arising from concurrent projects (each subject to EIA) (for instance, Piper, 2000) or impacts from the cumulative effects over time or in space of small projects that would never be subject to EIA given current screening thresholds. Although reference to cumulative effects is made in Directive 97/11/EC (and acknowledged elsewhere as an 'emerging challenge' for EIA systems, for instance, Sadler, 1996), it is too early to say if this gesture in the revised Directive will be effective. SEA has been invented partly in response to the need to address cumulative effects but there must be some doubt about its prospects based on the early implementation of (a type of) SEA in the UK, which is fraught with procedural and technical problems (Therivel, 1998).

#### *Value systems: significance*

EIA finds it hard to deal with multiple or plural value systems. This becomes clear when the significance of impacts must be judged (leading to important decisions on (a) whether the extra costs of avoidance or mitigation are justified, and (b) whether there is a basis for rejecting the project). Numerous studies of impact statements show that predictions are often weak and unquantified,

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'significance' is often determined by reference to expert opinion, to similar projects or by vague assertion (rarely by reference to quantitative data, laws, norms or standards). These studies conclude that the critical, central core of EIA — prediction and evaluation — is the weakest feature of a depressingly weak system.

If (e)valuation and the assessment of significance are weak, it follows that mitigation must be weak too, since there is no sound basis for judging the desirability or efficacy of the mitigation that is proposed. The weakness of public participation further exacerbates the problem, and acts to exclude any recognition of multiple, plural or alternative value systems.

### *Decision making*

Although EIA is usually seen as a process, procedure or technique that seeks to inform decision-makers of the likely impacts of a proposed action and the means by which those impacts can be avoided, mitigated or reduced, the process is not in itself seen as decision-making. At least in theory, EIA is a tool to aid decision-making. However, what needs to be recognised explicitly is that decisions are made at every stage of the EIA process, as well as at the end. Decisions are made to screen out those projects for which EIA is unnecessary, to define the scope of the EIA to be carried out, to choose between alternatives considered (sites, production processes or construction methods), or avoidance or mitigation strategies adopted.

There are, therefore, a host of 'decision-makers' involved in the supra-national, national or local government machinery through which regulations, rules and guidelines are established: the developer or their consultant (who prepares the EIA); the statutory and NGO (non-governmental organisation) or public consultees; and the final authorising authority. It seems naïve in the extreme to believe that EIA is solely decision-informing, or rational and value-free; it is certainly often decision-forcing, if not decision-making.

### *Monitoring and auditing*

EU EIA makes few demands and imposes no requirements for monitoring or auditing. Research by Dipper *et al* (1998) and Wood *et al* (2000) paints a picture that we can regard as encouraging or depressing. Their data show that, of 865 predictions (drawn from 28 assessments), 44% were not auditable (because of a lack of data, vague or ambiguous predictions and time dependency), whilst of the 488 (56%) that were auditable, 105 (21%) were "inaccurate". In other words, more than 55% of predictions were inaccurate, uncertain, unquantifiable or not verifiable. With monitoring and auditing such a weak feature of EIA practice, it is not surprising that a link from the EIA of a project, or cumulation of

projects, into integrated environmental management is all but unknown.

In addition to the weaknesses summarised above, which are in many respects deviations from the procedural norms promoted by NEPA and other 'idealised' prescriptions for EIA, there are other weaknesses (or dangers) embedded within the system. Several studies have shown (for instance, Glasson *et al*, 1997) that the 'quality' of impact statements, and by implication the assessment itself, is low or variable in the UK. Under the regulations, such low quality is not a reason for rejecting an assessment, even when the basic (and limited) requirements of the Directive are not met.

The British Government appears to believe, and many analysts seem to concur, that improvement can only come through practice, as experience is gained and advice and best-practice guidelines find wider application (the evidence does show some improvements over time). It is hard to think of another environmental regulation or control tool where such complacency would be tolerated. This complacency is probably symptomatic of the fact that EIA is a procedure that imposes no environmental standards, imposes no performance standards and sets few targets, although many other countries require and assess quality standards.

In summary, we can conclude that the key weaknesses levelled against the EIA system in the EU are the essential features required of a move towards more sustainable spatial planning.

## **Sustainable spatial planning?**

In one sense, therefore, sustainable spatial planning needs to be everything that EIA (as currently devised and practised) is not. Sadler (1999) identifies three key areas that would help to advance EIA and SEA practice in relation to the sustainability agenda:

- “1. The consideration of cumulative effects is an essential ingredient of more sustainability-relevant EIA and SEA practice. [It is] cumulative effects [that create] environmental unsustainability, [by the] adding [together of] an incremental but inexorable erosion of baseline environmental qualities and values. Under EU and UK procedures, references to cumulative effects can be found respectively in Annex 2 of the amending EIA Directive and Part 1 of Schedule Four of the Town and Country Planning EIA Regulations. Despite these requirements, cumulative effects continue to be overlooked in EIA practice in the UK and in most Member States of the EU. ... [T]here is little [or no] authoritative guidance on so called cumulative effects assessments (CEA), especially by comparison

- with [North America, and few early signs] that this situation will change and that cumulative effects will be progressively taken on board in EIA and SEA practice in the UK and the EU.
2. [Much wider] time and space frameworks of impact analysis [than the current project or plan] are often promoted in the EIA and SEA literature, but examples of their application in practice are far rarer. There is considerable potential merit in applying frameworks for ... [assessing, for example,] the ecological footprint of different scenarios for housing expansion. ... [This] would help to focus the policy debate on what is at stake environmentally. [Such mapping] would take account of land, energy and raw materials consumed, habitat loss, reduction of 'deep countryside' and [produce] an approximation of the overall ecological impact.
  3. Integrated policy and project appraisal represents the end point for the evolution of impact assessment. [Sometimes] called 'sustainability analysis', ... this approach [represents] a full cost analysis of the environmental, economic, [social] and equity effects of development options and proposals. ... Considerable progress has been made to define the conditions of sustainability in terms of natural, social and manufactured capital and to develop methods of valuing these. ... [T]his approach [is being] incorporated into national accounts as well as project and policy appraisal. In practice, however, bringing together the ... methodologies of EIA, [social impact assessment] (SIA) and economic appraisal tends to be a matter of focusing only on areas of overlap (e.g. economic valuation of environmental impacts). The way forward lies in [applying them in an integrated way] and organising the information to clarify the tradeoffs at stake and thereby foster integrated decision-making.

Finally, there is [another] bigger job to be done in relating EIA to the kit of policy tools that can be applied to take account of all types of environmental effects. Within a sustainability framework, the crucial concern is the damage to the capacity of the environment to function as a sink for emissions and the loss of a source of raw materials. By definition EIA and SEA are applied to major projects and [plans. However,] these proposals only account for a small percentage of environmentally damaging activities. ... [A] framework is needed which links together EIA, lifecycle analysis, environmental auditing, environmental accounting and other instruments."

## EIA as a tool for sustainable development?

Environmental impact assessment and its many progeny are often procedural only, that is, they are processes that must be followed before decisions are made, but do not in themselves impose on decision makers or others any particular value system, objective or strategy with regard to the environment, sustainability or any other issue of concern. As such, these tools are just that — technical or procedural methods that may or may not be useful in prosecuting sustainable planning according to the social and cultural systems in which they are embedded. For other analysts, there is a counter argument that these procedures contain implicit values and judgements that pre-select or predetermine the final decision in ways that run counter to the requirements of a sustainable approach.

The key questions must be "how can we assess whether a proposed policy, plan, programme or project will lead our society in the direction of more or less sustainability?" and "how can a decision-maker evaluate whether a proposal is consistent with principles of sustainable development or the local sustainable development vision or strategy?" Unless sustainability principles can be defined with some precision, neither EIA nor anything else can implement them (George, 1999).

My argument is that neither EIA nor SEA, as conceived and implemented in the EU and especially the UK, currently do, or are likely to be able to, provide a framework for answers to these questions, so long as the systems are weak in dealing with public participation, issues of alternatives and uncertainty, the problem of cumulative effects, the diversity of value systems, the issue of decision-making and the link from impact assessment into integrated environmental management. I see few signs that statutory EIA and SEA will move far enough, quickly, in a direction to redress these shortcomings.

I would also argue that so long as change is slow and incremental, the inherent weaknesses in the EIA system that the European Union has invented and enshrined in law produces an inertia that is unlikely to change. I therefore believe that other mechanisms need to be devised to address the sustainability agenda, especially in spatial planning.

Environmental appraisals in the UK often document the extent to which development plans move toward or away from sustainability requirements. A new breed of sustainability plans and appraisals is now being prepared (George, 2001). These are promising developments, especially if they can incorporate more explicit environmental and sustainability indicators.

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## Let's not be rational about this: response to Benson

Alan Bond

There is no doubt that the points made by John Benson are valid ones that need due consideration. The crux of his thesis is that, based on a rational model for environmental impact assessment (EIA), it cannot be an effective tool for achieving sustainable planning in the UK. I agree with this view, but believe that project-level EIA has continuing merit, and that a focus on the rational model can offer procedural improvements. I will, therefore, comment on the specific failings of EIA identified.

Furthermore, I agree that the political context within which EIA functions does not necessarily lend itself to rationalism (Lawrence, 1997; 2000) and will end with some thoughts on EIA referring to an institutional model. I do not agree that impact assessment,

at more strategic levels, cannot be an effective tool for achieving sustainable planning and will highlight the potential of the developments in this area.

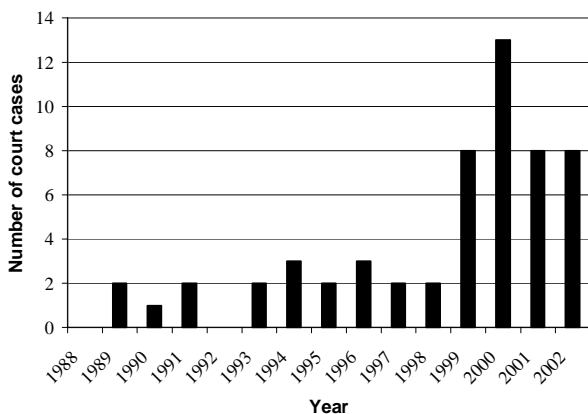
### Project-level EIA

Weston (2002) found that the EIA Regulations introduced in the UK in 1999 had strengthened the procedure significantly and presented more opportunity for legal challenge at three stages (screening, review and decision-making). The number of legal cases in England and Wales featuring 'environmental impact assessment' demonstrates clearly that this opportunity is being taken (Figure 1). However, EIA was not found to have increased its effect upon political decision making, and it is a key point that less than 0.1% (figure from Weston, 2002) of planning applications are subject to EIA in the UK; this fact alone makes EIA at a project level inappropriate as a tool for achieving sustainable planning.

Whilst a major weakness of EIA in the UK is recognised as being poor public participation, this has been addressed by the revised Directive requiring

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**Figure 1. Number of England and Wales court cases considering EIA**

ing earlier public participation in EIA (European Parliament and the Council of the European Union, 2003) adopted to implement the Aarhus Convention (UNECE, 1998).

That EIA is weak at considering alternatives has been attributed to a lack of proactive stances taken by competent authorities (Jones, 1999) and it is fair to say that these authorities now have an opportunity to facilitate better consideration through their scoping opinions, an optional (but common) requirement arising from the 1999 Regulations. Strategic environmental assessment (SEA) should be better suited to the consideration of alternatives, but it is not a panacea; as Valve (1999) point out, at more strategic levels, selection of alternatives becomes more political and it can be harder to agree an alternative than to agree an approach for assessing them.

On uncertainty, Wynne and Mayer (1993) write that “where the environment is at risk, there is no clear cut boundary between science and policy”. Whilst EIA should be criticised for hiding uncertainty and attempting to achieve certainty where it does not exist, there is no guarantee that decision makers will use the information rationally. The uncertainty associated with political decision making has far more significance for the environment than does uncertainty in EIA, whether good or bad.

On cumulative effects, Cooper and Sheate (2002) acknowledge poor coverage in environmental impact statements, but point to clearer requirements in the first amendments to the EIA Directive (Council of the European Union, 1997) and the opportunity for better scoping (through scoping opinions) and guidance as being the way forward.

On value systems and decision making, the accusation is that EIA cannot deal with value systems and that it is decision forcing, not decision informing. There is truth here, although some authors believe there are solutions (see, for example, Firth, 1998; Stolp *et al*, 2002) and I take the view that EIA places its value system, however flawed, in the public domain. Indeed, the welcome move towards scoping opinions being sought from competent authorities means that the decision makers’ value

systems are, to an extent, brought into the open at an early stage and this is a step forward from hidden value systems leading to mystical decisions.

On monitoring and auditing, the evidence against EIA is damning. However, the SEA Directive specifically requires monitoring of the effects of the plan implemented post-assessment (European Parliament and the Council of the European Union, 2001, Article 10).

## **Institutionalist model**

There are a number of authors who feel that EIA contain elements of a rationalist approach and elements of a behavioural approach (Wood and Jones, 1997; Bartlett and Kurian, 1999) based on a recognition that it sits in a political context. Thus, there are inherent difficulties in validating the success, in rationalist terms, of EIA. We can no more prove the advantageous influence solely applicable to EIA in decision making than we can the cost effectiveness of EIA despite claims to the contrary (see Tanvig and Nielson, 2002) (as, using the rationalist approach, there will never be a situation where two exactly similar developments, one with EIA and one without, can be compared in exactly the same institutional and political context).

Bartlett and Kurian (1999) present six models for EIA, only one of which (they use the term “information processing model”) is the rationalist model and they are equally damning of its effectiveness. However, they use five other models, one of which is the “institutionalist model” whereby successful EIA will bring about “changes in the mandates, rules and procedures of the agencies that in turn will influence and shape the notions of culture, values, norms and principles in the larger society” (Bartlett and Kurian, 1999, page 428).

This model considers EIA to be akin to a virus infecting institutions and subtly changing the way they operate. Is this possible? The potential for EIA to be an effective tool in this way can be gauged by examining how far the EIA ‘virus’ has spread through the institutional structures with relevance to planning in the UK.

Table 1 provides a rough indication of the scale of the ‘infection’. It provides evidence that the EIA ‘virus’ has spread throughout the UK planning system, including its support system. I contend that, in view of the laudable aims of EIA, this is a beneficial epidemic and not one that should be considered a risk; it is a tool which has already changed the mindset of those involved in decision-making processes and is thus already moving the UK towards sustainable planning. John Benson should be applauded for his views as it makes it clear that the majority of current research into EIA is limited to the rationalist model, which, I believe, devalues the impact and effectiveness of EIA; the challenge is now to prove this!

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### Strategic environmental assessment

I do not share John Benson's pessimism over the soon-to-be-implemented SEA Directive (European Parliament and the Council of the European Union, 2001). This was intended to promote sustainability and there is evidence from Flanders that stakeholders are in favour of SEA (Devuyst *et al*, 2000), which should ease its arrival. Benson highlights three key areas where impact assessment would have to be effective in order to advance sustainability:

- Cumulative effects need to be considered and a study by Fischer (1999) demonstrates that, at least in Noord-Holland, they are in transport infrastructure SEAs. So there is evidence of the potential effectiveness of SEA in this key area in the European Union (EU).
- Consideration of wider space and time framework for analysis requires the application of impact assessment at policy level. There is an encouraging development here in that the European Commission is to run a series of pilot projects using its new impact assessment process (Commission of

the European Communities, 2002) on Commission initiatives, and this represents SEA at the most effective strategic level.

- Integrated appraisal is an aim of the UK Government's draft guidance on the SEA Directive (Levett-Therivel Sustainability Consultants, 2002), which recognised a potential conflict with sustainability appraisal and attempts integration. Time will tell whether this will work, and there will undoubtedly be a period of 'bedding in' followed by evolution of the assessment process.

### Conclusion

Using the rational model, can project-level EIA be a tool for achieving sustainable planning? No!

Using the institutional model, can project-level EIA be a tool for achieving sustainable planning? Possibly, the capacity is there but the evidence of its effectiveness is not.

Can SEA be a tool for achieving sustainable planning? I believe it can, but it will be some years before we shall know for sure.

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**Table 1. EIA expertise available to the planning system in the UK**

Organisation/sector	Level of 'infection'	Evidence source
Environment Agency	<ul style="list-style-type: none"> <li>• ~150 planning liaison staff working on EIAs external to the Agency</li> <li>• ~25 staff working on EIAs conducted by the Agency</li> </ul>	Stewart (2003, personal communication)
Local planning authorities	<ul style="list-style-type: none"> <li>• 472 authorities, each needing to deal with EIA and having staff to do so</li> </ul>	Hemming Information Services (2001)
Environmental consultancies	<ul style="list-style-type: none"> <li>• 280 consultancies with specific expertise in EIA in the UK</li> </ul>	ENDS (2003).
Planning consultants	<ul style="list-style-type: none"> <li>• 431 organisations out of 450 on the RTPI database claiming expertise in 'environmental assessment'</li> </ul>	< <a href="http://www.rtpiconsultants.co.uk/">http://www.rtpiconsultants.co.uk/</a> >
Education	<ul style="list-style-type: none"> <li>• 63 separate courses</li> <li>• 10 schemes taught at 9 different institutions have EIA as focus and teach upwards of 200 students per year in the UK</li> <li>• Remaining programmes have some component of EIA (possibly optional) and teach upwards of 500 students per year at another 29 institutions</li> </ul>	< <a href="http://www.prospects.ac.uk/">http://www.prospects.ac.uk/</a> >
Public	<ul style="list-style-type: none"> <li>• In two English communities, between 60 and 65% of the public claimed to understand term 'EIA' and between 7 and 19% claimed some experience of EIA</li> </ul>	Robinson and Bond (2003)



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## Striving for more sustainable approaches: response to Benson

Andrew Brookes and Bram Miller

The crux of John Benson's paper is the argument that the current European Union (UK) environmental impact assessment (EIA) system will probably not, in the absence of radical improvement, offer a tool for sustainable planning. It is both thoughtful and provocative. To paint a gloomy picture of the European EIA process, particularly as applied within the UK, is a recognisable standpoint and one that might spur on those of us who believe in 'the spirit of EIA' to lobby for better things (as similar reviews have in the past).

However, the paper does not ring completely true with the cause of furthering good practice EIA; something that has proceeded apace since the

implementation of the European Union (EU) Directive in the 1980s. Progress with legislation and guidance within Whitehall over the past 20 years might appear painfully slow to some, but there have been considerable advances, perhaps unimaginable to the 'infant' environmental appraisal professional of the 1970s. There has also been a rapid growth of the EIA profession, exemplified by the birth and/or expansion of bodies such as the Chartered Institute of Water and Environmental Management and the Institute of Environmental Management and Assessment (IEMA).

### 'Spirit of EIA'

Yes, there are depressing stories of the use of EIA in the UK over the last 20 years or so. At worst, it might be regarded as a 'one time activity to fulfil legal obligations'; 'a token used by different groups and stakeholders to improve the image of a project'

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or (by some) as 'a tool to delay development'. However, there are many good stories to tell where it has been used as a practical tool to secure environmentally sensitive development projects. The 'spirit of EIA' is basically regard for it as a process that can be started at the inception of a proposal (and now with the advent of strategic environmental assessment (SEA) increasingly at much earlier strategic levels).

At the project level, the process at its best is iterative, perhaps identifying the need for redesign after initial consideration of impacts. The Environment Agency's (2002) guidance on scoping, for example, is a good demonstration of the benefits of earlier involvement. It is the author's experience that the status of environmental professionals within project teams is becoming increasingly prominent and, they are being brought into teams at earlier stages. This allows such professionals, often via EIA, to exert a greater influence on a project and push forward the principles of sustainability within the design. It is often ignorance on the part of the proponent that results in any failings to gain the full benefits of EIA (Brookes and Pollard, 2001).

Professional bodies, and their individual members, have a major role to play in educating those who are still ignorant (or indeed resistant) to the 'spirit of EIA'. The IEMA code (IEMA, 2002) states (in part):

- in giving advice, make the relevant person(s) aware of the potential consequences of alternatives,
- endeavour to be an innovative, lateral thinker in the pursuit of environmental improvement and sustainability,
- support and promote sustainable action and challenge environmentally unsustainable action,
- work to, and promote, high standards and best practice in the environmental profession.

### **Advances towards sustainable spatial planning**

Whilst it cannot be denied that the achievement of sustainable development goals remains somewhat elusive, the prospects are by no means completely gloomy.

#### *Public participation*

In terms of public participation, Benson argues that current UK environmental impact assessment (EIA) practice is "modest at best and tokenism at worst". But how is this measured? EIA practice in this respect is still very varied but a really challenging question for EIA practitioners is "what level of participation is appropriate to a particular instance?". This is not an easy question to answer.

As invited, Benson's "pessimistic diagnosis" can be challenged, but not by saying that there are individual EIA projects that prove an exception to

the rule (there are many!), rather that there is clear evidence of a radical change of culture. The UN Economic Commission for Europe's Aarhus Convention (UNECE, 1998) stipulates that there must be public participation in decisions about development and the European Commission (EC) currently has a draft Directive to give effect to the Convention. At the policy level in the UK, the Department for Environment, Food and Rural Affairs (DEFRA) is taking a lead through its sustainable development unit. At a practical level, there is the excellent Institute of Environmental Management and Assessment (IEMA) Guidance published in 2002 on public participation.

The public is much more likely to demand involvement, and this is increasingly apparent from, for example, responses to EIA scoping reports. Previously, EIA consultation usually involved a strictly limited set of 'statutory consultees', but now a whole host of non-statutory organisations and the general public are often given the opportunity to participate in the consultation process. Whilst this may not constitute true 'participation', it is certainly a significant step forward.

EIA is rarely undertaken in isolation from other aspects of a project and public participation/consultation is certainly becoming more prevalent. Hence it is becoming common for the two processes to be undertaken in parallel, with the combined benefits for sustainability greater than the sum of the separate processes.

#### *Alternatives*

The spirit of EIA as a tool that iterates with the project development process is well established. Although there may appear to be room for interpretation of the Directive and the Regulations on the requirement to evaluate alternatives, the UK Government has always underlined the advantages of starting the EIA process at the inception of projects, allowing for a full consideration of alternatives. Key consultees, such as the Environment Agency, have recently begun to insist on a thorough examination of alternatives. This places added emphasis to operate within the spirit of EIA.

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**The spirit of EIA as a tool that iterates with the project development process is well established: the UK Government has always underlined the advantages of starting the EIA process at the inception of projects, allowing for a full consideration of alternatives**

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Table 1. Evidence of sustainable approaches

Issue	Current practice
Uncertainty	Good scientists involved in EIA recognise the inevitability of risk and uncertainty in decision-making (see DETR, 2001); PPG 25 on Development and Flood Risk (DTLR, 2001) is a good example of invoking the 'precautionary principle' and forms part of the input to many EIAs. The Government requires openness and transparency in decision-making (Cabinet Office, 1998)
Cumulative effects	Cumulative effects assessment is a growing area of practice. The Habitats Directive requires that the "combined impact" of activities be addressed in an "Appropriate Assessment" affecting key conservation sites, and Government Guidance indicates that such assessments form part of an environmental statement (Office of the Deputy Prime Minister, 2001). Further developments will arise with the implementation of the SEA Directive as 'cumulative impacts' may be better dealt with at plan and programme levels. Research and development projects are currently being formulated by some of the Government agencies.
Significance	Significance is essentially a reflection of the importance of the resulting effect to the community and consultees. It is particularly important to understand what is of public importance and "Quality of Life Capital" (Countryside Agency, Environment Agency, English Nature etc, 2001), for example, is a relatively new approach encompassing the three elements of sustainable development. Value judgements form a necessary part of certain decision-informing methods and it is important to be open and honest about the assumptions made (see DETR, 2000)
Monitoring and auditing	Monitoring is increasingly requested at the scoping stage by regulators and may be stipulated as a planning condition. Monitoring compliance with other regulatory consents and licences is often required. Developers commonly apply or adopt environmental management systems (EMSS) to demonstrate implementation of mitigation measures and monitor effectiveness. Job titles such as 'environmental manager' or 'sustainable development co-ordinator' are increasingly appearing in contract documents. The Government's White Paper on Modernising Government also gives support to the importance of monitoring and audit.

A current and interesting challenge here is the development of approaches for tiering of EIA from the strategic assessment of plans and programmes (SEA) to the project level (DTI, 2001).

Other evidence of the move towards more sustainable approaches is given in Table 1.

## Conclusion

This discussion advocates that EIA and the newly emerging SEA have the potential to be an effective tool for sustainable development, particularly within the context of political and financial drivers on decision making. Without EIA, the prominence of sustainability as a driver would almost certainly be less. It could be argued that in a democracy there will never be dramatic innovation but we are heading in the right direction.

Practice may be evolving too slowly for some people's tastes but there is no doubt that increasingly, as we are seeing in many areas of environmental protection, approaches and methods that allow a more sustainable approach are being developed (Brookes *et al*, 2001), not least in areas such as social legitimacy and scientific rigour. This is not to say that significance challenges do not remain — the integration of social and economic factors alongside environmental in the context of wider sustainability appraisal being just one of them, as well as effective tiering. As practitioners we must (and indeed do) rise to such challenges!

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## **What is the alternative? Response to Benson**

Yvette de Garis

John Benson asks an interesting question but fails to suggest a sensible resolution. It is all too easy to criticise the existing tools but unless one can suggest more effective mechanisms, it would perhaps be more constructive to suggest how the implementation of the existing process might be improved.

There will be scope for improvement in the implementation of environmental impact assessments (EIAs) and strategic environmental assessments (SEAs) for some time to come. However, I would argue that what is needed is a societal change that sees SEA and EIA as valuable tools in the toolkit for the development of a sustainable project, rather than an impediment to project promotion.

There is little desire within society to see sustainable projects; I do not hear a general outcry for housing serviced by greywater systems and solar panels, and, until we do, there will be little incentive for developers to major on the sustainability aspects of projects. A more interesting question might be "how could we create such incentives without the imposition of draconian legislation?"

Nevertheless, there are indications that the current systems can deliver more sustainable projects. Within the regulated industries, the combination of a tough regulatory system that demands environmental improvements, and legislation relating to EIA and SEA, has seen a higher profile given to the environmental implications of projects and, as a result, the delivery of more sustainable projects sitting within an overall strategy that is in itself put together taking issues of sustainability into account.

In the water industry, we are familiar with giving great attention to alternatives and the consideration of uncertainty. Both are regulatory requirements that must be met before our five-yearly business plans will gain approval from the water industry regulator,

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Ofwat. This has some similarities with the plan-making process in local planning authorities.

In other areas, such as the evaluation of cumulative effects, we are perhaps less advanced. However, all too frequently we are on the receiving end of a narrow view taken in development planning, such that the wider implications of development proposals on, for example, water and sewerage infrastructure, are not realised until too late in the day. Consequently, we are making considerable endeavours to ensure that development planning takes a more holistic view and recognises the knock-on impacts of development on the wider environment.

Like most other companies, we are currently struggling to find an appropriate way of facilitating more effective public participation, but efforts to date have tended to attract little interest from the general public in the planning of our projects, unless they arise from a particular 'anti' lobby. This is an area where further development is urgently required, particularly with the requirements of the Water Framework Directive looming ahead of us.

In conclusion, I would suggest that, while John Benson is right to highlight the need for a more thorough consideration of sustainability in spatial planning, damning the tools of EIA and SEA is perhaps throwing the baby out with the bathwater and eliminating the best opportunity that we have for improving current mechanisms.

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**While John Benson is right to highlight the need for a more thorough consideration of sustainability in spatial planning, damning the tools of EIA and SEA is perhaps eliminating the best opportunity that we have for improving current mechanisms**

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## EIA: there's life in the old dog yet — response to Benson

William R Sheate

John Benson's article serves a useful purpose in stimulating a timely debate on the purpose of environmental impact assessment (EIA). That there needs to be a debate now, in the evolving context of sustainable development, is something on which we can wholeheartedly agree. We differ, however, in our conclusions as to what that purpose should be.

Benson's assertions regarding EIA can be tackled on a number of fronts. However, within the limitation of space, I focus below on three fundamental areas where I take issue with his belief that EIA has had its day (and not just because EIA is central to my job title!). The first relates to conceptions of EIA; the second is his criticism of failure of practice as if it equates with criticism of EIA as a tool; and the third is where he places EIA in relation to sustainable development.

First, he takes issue with the rationalist model of decision-making that has been adopted by EIA. Clearly there are historical reasons for the rationalist focus of EIA, but also as a procedural tool there is a certain inevitability that it will take as a basic framework a rationalist approach. Actually over recent years there has been extensive debate about the rationalist and non-rationalist models of EIA and strategic environmental assessment (SEA) (see, for example, Brown and Therivel, 2000; Kjørnø and Thissen, 2000; Nilsson and Dalkman, 2001; Nitz and Brown, 2001; Weston, 2000).

Benson highlights, particularly, the weaknesses this rationalist approach has brought to EIA in the European Union (EU), especially through the various EIA and SEA Directives. The EU actually placed great stress in the early negotiations of the EIA Directive (85/337/EEC) on not adopting the typically rationalist approach of the National Environmental Policy Act (NEPA) in the USA, but instead sought to create an EIA process and exchange of information, rather than simply the generation of an environmental impact statement (EIS) (the term is not even used). However, as the main vehicle for public consultation under the Directive, the focus on such a document of course became virtually unavoidable and so strongly influenced the procedures created.

This is certainly a failing of the legislative process and Member State governments for not encouraging

earlier and more extensive public participation (something many of us have been critical of for many years), but is not a criticism of EIA *per se*. The EU system, while it might take a rationalist approach as a basic framework, by the very process of legislating through Directives, recognises the need for flexibility in adapting to widely different circumstances for decision-making in diverse Member States.

Under the principle of subsidiarity, this leaves some discretion to Member States in the mechanisms they use to meet the objectives of the Directives they have agreed, and after all sets only a minimum, not a maximum, standard. The diversity of EIA systems (which again Benson criticises) is also its strength, reflecting EIA's ability to adapt, and be adapted, to different circumstances, while, nevertheless, retaining a remarkable degree of commonality (see, for example, Lawrence, 2001; Wood, 2003).

Benson takes an unduly pessimistic view of the practical experience of public participation in EIA, failing to acknowledge the significant steps forward that have been achieved in 30 years. Indeed, EIA has contributed significantly to the development of, and debates about, public participation in environmental decision-making more generally (Petts, 1999). It has not been coincidental that Central and Eastern European States and their non-governmental organisations (NGOs) have been at the forefront of pushing EIA and SEA (for instance, through the Aarhus and Espoo conventions<sup>1</sup>) as the focus for promoting public participation in environmental decision-making (European ECO-Forum, 2002). EIA/SEA provides a key process by which participation can and does happen.

This is but one example of where Benson confuses the failings of experience as though they were inherent failings of the tool. Many of the EU's failings of experience he highlights (and I recognise all too well) are also directly linked to the political expediency of legislating for project-level EIA first and leaving an SEA vacuum for nearly 20 years.

Cumulative effects, along with the consideration of alternatives, have not been addressed effectively in the UK for many reasons, though only one of them is the failure to legislate for SEA earlier. Other key reasons include: the nature of transposition of the EIA Directives in the UK; the lack of consistent conception of what cumulative effects actually are; the lack of appropriate processes through which they can be assessed; and the simple fact that their assessment is inherently difficult (Piper, 2000; Cooper and Sheate, 2002).

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However, once the EIA Directive (85/337/EEC) had been passed, and indeed for some time before, EIA practice began to overtake the legislation. The legislation provided the impetus, but by having to reach agreement among the large number of (as then) EEC (European Economic Community) Member States, it was inevitable that the legislation would not be the toughest or most desirable. Yet in many ways it served the most critical of purposes very effectively — it sowed the seeds of EIA in Europe, which have since often resulted in practice overtaking and leading the legislation. That is no bad thing.

Consequently, EIA is now largely accepted by developers as a core aspect of project planning. Furthermore, many stakeholders have become highly skilled in engaging positively and proactively in the EIA process. Good, even if not best, practice is, I would argue, no longer just the isolated exception.

Contrary to Benson's assertion, EIA has adapted and is flexible, as witnessed by the diversity of approaches world-wide. In reality, as we have seen in International Association for Impact Assessment (IAIA) workshops on linking impact assessment and management tools over recent years, most new assessment tools are largely variations on the EIA theme, adapted to certain circumstances, modified in their procedures, tweaked to reflect more accurately what happens in practice (Sheate, 2002; van der Vorst et al, 1999). There is a strong argument for using EIA/SEA to promote the environmental aspects of sustainable development (Stinchcombe and Gibson, 2001), just as social impact assessment (SIA) is needed to ensure social aspects are addressed sufficiently, and health impact assessment (HIA) is needed to ensure adequate consideration is given to health issues in decision-making.

The historical perspective is important, that is, why was EIA created in the first place? Does sustainability appraisal or assessment (SA) meet the same objective of ensuring the environment is given sufficient weight in decision-making? Not necessarily. SA has a potentially important role to play in bringing all these aspects together, in encouraging monitoring and in providing a focus for debate, but in no way can the one tool provide an adequate substitute for all the components. The inevitable simplification needed in SA risks the loss of essential transparency that underlies the very essence of EIA and other assessment tools. This leaves the decision-making process vulnerable to a 'business-as-usual' interpretation of sustainable development (an essentially economic one), rather than one in which environmental and social aspects are imperative. But then, it depends on whether you ascribe to a 'weak' or 'strong' interpretation of sustainable development. That is where value systems come in to play.

Failure in practice then, should not be the basis on which to dismiss the entire tool or its ability to respond to new directions and imperatives. EIA is, I would argue, highly adaptable and constantly

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## **Failure in practice should not be the basis on which to dismiss the entire tool or its ability to respond to new directions and imperatives: EIA is highly adaptable and constantly evolving and has not become fossilised and had its time**

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evolving and has not, as Benson implies, become fossilised and had its time. Yes, sustainable development offers new challenges for EIA, but if we cannot yet do it properly, perhaps we need to try harder, rather than believe that shiny new sustainability tools (with just as many, if different, failings) will provide a brighter future. So, unlike John Benson, I remain optimistic for EIA and SEA. There is life in the old dog yet, and it can still even be taught a few new tricks.

### **Note**

1. United Nations Economic Commission for Europe (UNECE) Aarhus Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters (1998); UNECE Espoo Convention on Environmental Impact Assessment in a Transboundary Context (1991)(an SEA protocol attached to the Espoo Convention was also secured in 2003 through extensive NGO lobbying).

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## What is the alternative? A practitioner's response to Benson

Paul Tomlinson

I must sadly agree with John Benson's view that the strategic environmental assessment (SEA) Directive is unlikely to result in a dramatic innovation at least in the short-term for the following reasons:

- We do it anyway: we are witnessing the re-badging of studies as SEAs when many elements of what constitutes a SEA, at least in terms of Directive 2001/42/EC, have not been met.
- One size fits all: there is a risk of promoting a mindset of 'one size fits all' such that assessment methods appropriate to policies risk being utilised for plans with a high project content.
- Weak professional capacity: experience with strategic transport planning has revealed flaws in the manner in which strategic assessments are performed that could be even more apparent in other sectors such as land-use planning.
- Weak institutional capacity: the planning professions need to undergo a fundamental culture change with extensive training if SEA and assessment practices are to be soundly embedded. An appreciation of a new way of working in which alternatives are robustly examined for their significant environmental impacts and judged against locally relevant objectives using indicators is needed.
- SEA is seen as a separate system to environmental impact assessment (EIA): as SEA is being introduced without either learning the lessons from the introduction of EIA or considering the implications for project-level decision-making in general, duplication and inefficiencies may result. Issues

such as cumulative effects, mitigation and enhancement, and monitoring may be dealt with in a piecemeal manner that fails to deliver sustainable development or integrated environmental management.

### *Public participation*

Benson suggests that there is universal agreement that participation is a necessary feature of all sustainable endeavours before being critical of EIA for failing to deliver "genuine participation" or "empowerment of local communities". This criticism is unfair, since EIA was not established to deliver 'participation'. Instead, its objective was to ensure that environmental implications of development projects were taken into account in the decision-making process.

While EIA should deliver public consultation, a greater opportunity for participation rests with SEA, being primarily applied by the public sector to plans and programmes. However, most people only become interested when a proposed project directly affects them. Plans and programmes are frequently too remote to interest people other than those who are members of interest groups. A further difficulty is that the large geographic area that is often encompassed within an SEA causes the resources devoted to public involvement to be spread very thinly.

Public participation may be inadequate in sustainability appraisal mark 2 (SA2) (the approach in England to implement the SEA Directive) unless improvements are made to the existing sustainability appraisal practice, which has often failed to consult the public. Despite such pessimism, is the lack of public participation really a criticism of EIA, SEA or sustainability appraisal, or is it more a commentary on the state of local democracy in the country? EIA or SEA of themselves will not resolve issues of public involvement. Instead, they simply place a

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spotlight on the weakness in whatever system happens to be in place.

### *Alternatives*

Benson argues that EIA has an inherent weakness in that it focuses only on projects and that the process is controlled by the developer, with the 'do nothing' alternative rarely being on the agenda. As EIA focuses primarily on projects proposed by the private sector, it is inevitable that alternatives to the project are infrequently proposed. It is not clear why Benson should consider this a weakness of EIA. It is for the planning authority to consider the merits of the planning application and, given the presumption in favour of development, particularly when in conformity with the development plan, the logic of considering the 'do nothing' alternative runs counter to the general planning philosophy established over the last 60 years.

In order to provide a robust assessment of alternatives within a SEA, and thus to limit the scope of the EIA, it is helpful to ensure that:

- Simple small-scale measures have equal status to large infrastructure projects.
- The process of identifying and excluding alternatives is transparent, open to stakeholder review and closely linked to environmental, economic and community objectives.

It remains to be seen whether UK assessment practice will fully embrace the opportunities that SEA offers to consider alternatives, thereby allowing project EIAs to focus on issues of design, mitigation and enhancement measures.

### *Uncertainty*

Benson is correct in his analysis that developers infrequently report uncertainty in an assessment. However, some projects with long planning horizons have had to come to terms with uncertainty and it is incorrect to suggest that examples of good practice do not exist. The art of dealing with uncertainty is first to recognise that it exists and then to determine whether it matters. Being uncertain of an impact that is not material to the planning decision is less important than uncertainty about an issue that is central to the consent and project design processes.

### *Cumulative effects*

The need to consider cumulative effects has been included as a legal requirement for EIAs since the introduction of regulations implementing EC Directive 85/337/EEC. This requirement is also contained within the amending Directive 97/11/EC. Consequently, all EIAs must consider cumulative effects. However, in the case of single-site projects, the ability or desire to consider such impacts is often

constrained by a failure to explore the manner in which the project could interact with other land-use activities.

The SEA Directive explicitly requires consideration of secondary, cumulative, synergistic, short-, medium- and long-term, permanent and temporary, positive and negative effects. This is not surprising, as it is a reaction to the failure of project EIA to consider cumulative effects. To achieve this requires an appreciation of how proposals interact with each other as well as with the environment. Such interactions include:

- Interactions among proposals: these include impacts occurring throughout plan and programme implementation that may be greater than the sum of the individual proposals.
- Interactions with the proposals of other plans and programmes: these include impacts occurring in neighbouring regions, in addition to those with the same plan/programme area.

It is impractical to consider all potential cumulative effects; consequently, scoping is required to limit the studies to those that can be meaningfully evaluated. Such scoping must also recognise that valued environmental resources transcend administrative boundaries and operate at their own peculiar geographic scales (Tomlinson et al, 2003). Benson notes that there is a lack of authoritative guidance on cumulative effects assessment and one must ask why so little guidance has been published given that cumulative effects is a requirement of EIA and an essential component of SEA. Consequently, it is hoped that the new guidance on SEA to be issued by the Office of the Deputy Prime Minister (ODPM) extends its coverage of cumulative effects from the single paragraph (3.6.11) in the draft version (ODPM, 2002).

### *Significance*

EIAs have struggled with the application of significance criteria, often failing to provide any coherent or consistent approach to the assessment of impacts across the various topics. Benson considers that this represents the weakest feature of a depressingly weak system but it is incorrect to castigate all EIA practice as being weak. Because SEA encounters a greater level of uncertainty in the assessment than project EIA, there is a case for a standardised set of significance criteria to be used.

### *Monitoring and auditing*

The research quoted by Benson indicating that 55% of predictions were inaccurate, uncertain, unquantifiable or not verifiable should be compared with Bisset and Tomlinson's (1988) finding that 95% of predictions fell into this category. While Bisset and Tomlinson (1982) set out the implications of audits



for EIA practice in 1982, over 20 years later there remains a failure to link monitoring to significant impacts. Unlike the EIA Directive, the SEA Directive requires monitoring of significant impacts. SEA may also highlight a need for more monitoring to establish long-term trends in which specific project monitoring can be linked. However, resource constraints suggest that this need is unlikely to be fulfilled.

#### *Quality control*

As Benson notes, "it is hard to think of another environmental regulation or control tool where such complacency [in quality control] would be tolerated". Given that it has taken over 15 years to achieve the current standard in EIA, the opportunity to learn from this experience to avoid similar problems with SEA looks like being sadly missed. Since the planning authority will be the author of the plan/programme and of the SEA and also the approving authority, impartiality and effectiveness may prove problematic. A relatively straightforward step would be to place a requirement on the statutory environmental bodies to prepare an independent review of the SEA and for this to be a material consideration in the plan or programme hearings.

#### *Decision-making and sustainable development*

As Benson observes, EIAs are decision forcing. Yet can it be any other way? Decisions are needed at many stages in the design and assessment of a project. Criticism, however, can be levelled when environmental statements (ESs) fail to document such decisions. Benson also calls for a framework that links EIA, lifecycle analysis, environmental auditing, environmental accounting and other instruments to inform decision-makers of the implications on the functioning of the environment, something that Petts (1999) has already postulated.

The EIA Directive states that EIA is a fundamental instrument of environmental policy and action in relation to the environment and sustainable development, while the SEA Directive states that the inclusion of a wider set of factors in decision-making should contribute to more sustainable and effective solutions. Hence, whether EIA, or SEA for that matter, will prove to be suitable tools for sustainable development is a function of the extent to which they appropriately report a wider set of factors to the decision-making processes than otherwise might have been the case. However, focusing on the final report and the consent decision addresses only one aspect of its performance in relation to sustainable development.

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assessments must be embedded into the decision-making processes that they seek to inform. Essentially this involves convincing those who are not motivated by the arguments of process and environmental management that assessment activities represent good value for money and improve the prospect of the plan or project gaining consent (Nellthorpe and Mackie, 2000).

The extent to which sound procedures are followed is influenced by their acceptance by all involved in the plan or project preparation activities. Since the majority of people involved in such processes are not environmental professionals, it is imperative that assessment practices are demystified, that jargon is removed and that a coherent and consistent set of terms are used to avoid confirming the negative impressions of EIA among other professions.

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## **Is there a future for EIA? Response to Benson**

Joe Weston

John Benson's paper argues that environmental impact assessment (EIA) requires a radical overhaul if it is to have any significant role in sustainable planning. The lack of any policy goals or standards in EIA, it is argued, reduces it to little more than a legalistic procedure that has little meaningful use in modern environmental planning. Yet the problems of EIA may run much deeper than this and be more related to its original role within the wider societal context of environmental decision-making.

EIA has always been characterised as a tool to aid decision-making, and, as such, its role is better understood within the general framework of decision-making theory. The literature on decision-making theory identifies two main theoretical frameworks — the behavioural or action model that attempts to explain decision-making in terms of the actions of individual decision makers, and structural theories that attempt to explain decisions in terms of the structure of the society in which decisions are made.

These two theories of decision making are not mutually exclusive, indeed they can be complementary and mutually reinforcing. The rationalist school, and its many variants, have dominated the behavioural models of decision making theory (Hill, 1997, p.9) and, as Benson argues, EIA clearly has its roots in the 1960s demand for systematic, objective and rational approaches to decision-making. The structuralist school offers two main theories: the many variants of pluralism, where decisions are made so that decision outcomes are in the interests of society as a whole and are based on democratic structures where different and competing interests can influence decision-making (Dahl, Bell, Galbraith, Darendorf and so on); and theories that see society as being structured around the needs of dominating ruling class or élite (power theory) and argue that all decisions, either by design or default, are ultimately made to serve the interests of those whose wealth or power dominate the structure and culture of society. (Marx, Lukes, Middlemas, Michels and so on).

Within the pluralist model, EIA would be seen as part of the inclusive process of democratic structures where the public are given the opportunity to participate in decision making through the consultation aspects of EIA procedures and where decision-makers take into consideration the environmental impacts of projects. For pluralists, the introduction

of EIA can be seen as a response by government to the societal demand for proactive environmental management.

However, for those who see society as being dominated by the interests of a powerful few, the actual decisions that follow EIA are based not on the environmental impacts, or on the likely impacts on a local community, but on economic considerations and these will always be in the ultimate interests of the dominant group within society. Thus, EIA is seen as little more than a smokescreen introduced to provide legitimisation for decisions that would be made anyway.

Much of the debate within structural decision-making theory is part of the wider political and sociological debate about the distribution of power and influence in modern society. As such, evidence can be used to support either theory. As John Benson's article suggests, there are far too many weaknesses in the practice of EIA for it to be seen as wholly supporting the classical pluralist model. On the other hand, according to Wathern (1990, page 4), it was environmental pressure groups in the USA, not big business, that pushed for, and used, the courts to force EIA on federal government agencies. What is more, there is evidence, in the UK at least, that EIA has brought environmental benefits that do not immediately appear to be in the economic interests of developers.

So the introduction of EIA does not fit easily within the power theory models either. As with that wider political debate about the structure of society, the truth probably lies somewhere in between the two.

The creation and development of EIA took place during a particular period of western development when a number of key societal demands came together. First, there was the emergence in the 1960s of a new wider concern for the environment. Secondly, there was the creation of a 'protest culture' that emerged out of the civil rights and anti-war movements of the time and that demanded wider public involvement in decision making. Thirdly, there was the dominance of the normative rationalist model in land-use planning as part of a wider societal deference to science, technology, experts and the use of rational decision making techniques (see Cotgrove, 1977). EIA offered to provide for all of these demands.

The early proponents of EIA characterised it as a rational, scientific and systematic proactive environmental management tool that required public involvement to ensure that issues of community concern were addressed and to allay fears about the environmental consequences of an action (see Burchell and Listokin, 1975; Canter, 1977; Erickson,

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1979; Jain *et al*, 1981; Munn, 1979). The problem is that, since its introduction in the USA, and subsequent transfer to countries all around the world, the claims made by the early proponents of EIA have largely failed to be realised.

Moreover, for it to have been capable of meeting one of its key aims, to allay public fears over development, the public must first believe the science and trust the opinion of the experts that carry out and report the assessments, and believe that public participation and involvement in EIA can affect decisions. That is to say, there must be a general acceptance of the rationalist and pluralist models for decision making. The problem for EIA is that, since its emergence, society has changed and we have a new model by which we can assess the legitimacy of EIA.

The period between the late 1960s and today has seen widespread erosion of many of the prerequisites for successful EIA. The deference to science and experts and the belief that rational planning was either possible or desirable have been compromised by events of the past few decades. The technology created by science and the assurances made by experts have been shown to be flawed. Nuclear power plant accidents, chemical spills and numerous environmental disasters, often related to projects that had been subject to the EIA process, have demonstrated the fallibility of science and expert scientific opinion.

Furthermore, debates surrounding the introduction of new technologies, such as genetically modified organisms, where scientists fundamentally disagree with each other, have made it difficult for the lay public to accept expert scientific opinion as anything other than partial (see Huxham and Sumner, 2000). The BSE (bovine spongiform encephalopathy or 'mad cow disease') crisis in the UK and Europe, and the conflicting evidence on the safety of everything from mobile telephones to the use of the MMR (measles, mumps and rubella) vaccine, have further undermined the trust people have in science and experts.

Today we no longer accept, as a society, the widely held view of the 1950s and 1960s that science is neutral and that technology can overcome all problems. This has created a situation in which the public fear the consequences of change over which they have no control, and environmental decision-making has become dominated by perceptions of risk. For Beck

(1992; 1995) this has created a "risk society" that can be traced to a number of key factors:

- growth of individualism;
- the language of science and technology excludes the public and further alienates them from decision making;
- there has been a growing dependence on science and technology that present globalised environmental risks over which the individual has no control;
- globalised environmental risks do not respect the relative wealth of those they fall upon;
- scientific knowledge on environmental risks is changing with the 'safe' levels of exposure to many chemicals and other emissions being reduced almost on an annual basis;
- the over-extension of the State, promising security it cannot guarantee; and
- scientific prediction and the opinion of experts have been shown to be wrong.

According to Goldblatt (1999, page 377) the first casualty of the risk society is trust in state institutions and structures. There is much evidence to support that this is happening, with government experts being trusted far less than groups like Friends of the Earth and Greenpeace (see HMG, 2000). If the risk society thesis is correct, this would explain an overall increase in direct action protest over planning and other environmental decisions, and a general scepticism towards procedures such as EIA.

Benson's article highlights some of the weaknesses of EIA that he believes have undermined its public credibility. These weaknesses, including problems such as lack of accuracy in predictions, lack of objectivity of those charged with producing the assessments and the lack of any real commitment to genuine public participation, mirror the explanations that Beck uses to underpin his risk society thesis. That thesis may be a less all-embracing structural theory of society and environmental decision making than either the pluralist or the power models, however, it does raise some interesting questions about the future of EIA and similar rationalist decision making tools.

The risk society mentality creates major problems for EIA. If the public does not trust the experts and science any more, what meaningful role can EIA have in the future? In a risk society, supporting the procedural basis of EIA with policy aims and standards that will inevitably be based on science and expert opinion, may not be sufficient to provide legitimacy for a procedure that may well have had its day.

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## Riposte

John F Benson

"I'd rather be vaguely right than precisely wrong."

*John Maynard Keynes*

The editors have generously offered me the opportunity to reply to the pieces written in response to my original paper. They invited me to prepare a riposte<sup>1</sup> but I fear that whilst my response can be quick (and short), it may not be clever or amusing. Let me say clearly, however, that I am as much an enthusiast for environmental impact assessment (EIA) as my critics; I prefer to think I am a realist rather than a pessimist.

I have two main groups of remarks to make. The first is to do with intention and generalisation. In constructing a short and intentionally critical and contentious piece, it is impossible to resist the temptation to generalise and exaggerate to make a point and I have done this freely. I do not mean to argue or imply that all EIA in the UK is always weak and inadequate. There are, of course, numerous examples of good guidance, good participation, good practice, and so on. The various commentators on my piece provide many examples of this kind and I am pleased to endorse their arguments and evidence. I did not argue that project EIA *per se* was universally weak and inadequate to the task of assessing the environmental effects of a project, although the UK interpretation of the European Union (EU) Directive(s) has a range of weaknesses that are widely acknowledged. What I did argue was that project EIA does not, as currently legislated, offer a useful tool for sustainable spatial planning.

I think that the weaknesses I identify are structural, that is, they are inherent in, and embedded in, the European Directives and their legal implementation, to the extent that no amount of good practice, advice, enlightenment and enthusiasm can be a satisfactory substitute for weak legislation. To stretch my

"toolkit" analogy a little further, we can all agree that a hammer is a useful tool, we may even be very enthusiastic about hammers or even be a lecturer in hammers, and some hammers are very efficient and effective at driving in or extracting nails; but a fragile, crude, unbalanced, badly designed and constructed hammer is not a good or useful tool (and a hammer is also not much use for sawing wood).

The second group of remarks are to do with what I did not say. Some respondents have read more into my piece than is warranted and some have read things into it that are not there. For example, nowhere do I say that EIA has had its day, or that it has not been adapted. I did not criticise its diversity — I said that it is dangerous to generalise and argue that all EIA is good precisely because legislation and practice are so diverse. My complaint is not with EIA, especially the 'model' of EIA that many regard as the *desideratum* of good practice, but with the structural weakness in the EU system(s).

Overall, I am encouraged by the considerable measure of agreement evident within the various pieces. Whilst some suggest I go too far in my castigation, others such as Joe Weston imply that maybe I did not go far enough, if I read his piece aright. I was a little disappointed that he was the only respondent to pick up in detail on my comments about a lack of theory-building; most critics focus on practice issues. In conclusion, I am content that my polemic has generated some thoughtful and constructive responses that can only help stimulate further the research, analysis, debate and possibly the improvements in all aspects of impact assessment that are so sorely needed.

### Note

1. Riposte: noun: a quick and clever remark, often made in answer to a criticism; a quick, clever, and amusing reply.