

# Sustainability appraisal: jack of all trades, master of none?

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Sustainable development is a commonly quoted goal for decision making and supports a large number of other discourses. Sustainability appraisal has a stated goal of supporting decision making for sustainable development. We suggest that the inherent flexibility of sustainability appraisal facilitates outcomes that often do not adhere to the three goals enshrined in most definitions of sustainable development: economic growth, environmental protection and enhancement, and the wellbeing of the human population. Current practice is for sustainable development to be disenfranchised through the interpretation of sustainability, whereby the best alternative is good enough even when unsustainable. Practitioners must carefully and transparently review the frameworks applied during sustainability appraisal to ensure that outcomes will meet the three goals, rather than focusing on a discourse that emphasises one or more goals at the expense of the other(s).

**Keywords:** sustainability appraisal, discourses, alternatives, decision making, environmental governance, sustainability indicators

**T**HERE ARE THREE GOALS enshrined in most definitions of sustainable development: economic growth, environmental protection and enhancement, and the wellbeing of the human population (social, economic and environmental goals) (Theobald, 2005). Therefore in this paper we adopt the position that, for a decision on a proposed activity to have ‘sustainable’ outcomes, it must positively grow or develop each or any of these capitals, or at a minimum not reduce them from the situation existing at the time of the decision, such that future trends of any of the capitals are not negative. Thus, superficially, it might appear that sustainable development is a straightforward concept that should be inherently acceptable to everyone. Indeed, sustainable development as a concept has been embraced by many governments, including the United King-

dom (Russel, 2007), and its pursuit was formalised through the five-year review of the Rio Earth Summit, which committed governments across the world to formulate national strategies for sustainable development (Ayre and Callway, 2005). In order to influence decision making to facilitate development that might be described as ‘sustainable’, sustainability appraisal is beginning to proliferate as a decision-support tool (Dalal-Clayton and Sadler, 2005; Sheate *et al*, 2008), and has been defined by Dalal-Clayton and Sadler (2005, p.368) as ‘an integrated assessment of the environmental, social and economic effects of proposed actions at all levels of decision-making’. Sustainability impact assessment of trade policy used by the European Commission, and the sustainability appraisal (SA) approach required by planning regulations in England are highlighted as prominent examples (Dalal-Clayton and Sadler, 2005). Thus, we focus on the English SA approach, both as a ‘prominent’ example and pragmatically because it is a system that has been legally required for five years at the time of writing, hence some research has been conducted on its practice.

However, we argue here that sustainable development is neither a universally accepted goal nor a

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## **Sustainability appraisal has been defined as an integrated assessment of the environmental, social and economic effects of proposed actions at all levels of decision-making**

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concept which has a common meaning for different stakeholders. We argue that the approach taken towards SA, a decision-support tool that aims at informing more sustainable decisions through the derivation of an evaluation framework based on indicators, is so flexible given the broad scope of the sustainable development concept, that both its framing and its use can be manipulated by actors favouring other discourses (which may or may not relate to sustainable development). In particular, we examine whether it is possible to manipulate sustainability indicators to achieve appraisal outcomes that match the dominant discourse, rather than facilitating an objective consideration of sustainability outcomes.

In the next section, we explain the approach taken in this research. In particular, we set out a conceptual map of some of the discourses that are relevant to an analysis of the practice of SA, and also explain our conceptualisation of the problem. Following this, we explain the background to the English SA process and briefly explain what it requires. We then examine how SA can be framed to favour particular discourses in order to argue that the decision-support tool can itself be manipulated with consequences for the outcomes resulting from the decision process. Then we indicate how the interpretation of the results from the SA can also be manipulated to favour particular discourses. Finally, we conclude on what this means for impact assessment practitioners in the context of the rapidly developing field of SA.

### **Methodology**

SA has its basis in environmental impact assessment (EIA), which has rationalist roots, whereby the presentation of better information will, by definition, lead to better decisions. In turn, it is assumed that the outcome of better decisions will be appropriate environmental protection or enhancement when approved development takes place relative to the alternatives that were considered and rejected or modified during the EIA process. This view was predicated on the rational behaviour of stakeholders and, in particular, decision makers. However, increasingly authors argue that decision making is not rational, and that EIA has considerably more roles than simply information provision (see, for example, Lawrence, 2000; Leknes, 2001; Bond, 2003; Bekker

*et al*, 2004; Owens *et al*, 2004; Morrison-Saunders and Bailey, 2009).

Bartlett and Kurian (1999) detail six separate models explaining the role of EIA in decision making, in which the information processing (rational) model is one end of the spectrum of influence; other models include the symbolic politics model, the political economy model, the organisational politics model, the pluralist politics model and the institutionalist model. Research to date has focused on the information processing model, perhaps because it is relatively easy to measure influence, but the evidence suggests that the influence of EIA on decision making using this model is very limited (see, for example, Wood and Jones, 1997).

In common with EIA, SA can be assessed based on a number of theoretical frames, and its effectiveness gauged accordingly. However, appropriate theoretical framings rely on a common understanding of the purpose of, and approaches to, SA, wherein lies the problem! In common with Svarstad *et al.* (2008), in this paper we adopt a social constructivist perspective which acknowledges different social realities: 'constructivist research focuses on the communicative processes through which social reality is created, reproduced and transformed' (Svarstad *et al*, 2008, p.118). As such, in order to meet its dual role, the expectation for SA would be that it could operate as the vehicle for social discourse that can define sustainability in its context. That is to say, we regard SA as having purposes and approaches which are not agreed, and that different discourses exist.

Svarstad *et al.* (2008) discuss the importance of social constructivism in relation to analysing environmental indicators (which are a key methodological underpinning of SA). In their arguments they build on Kuhn's (1970) seminal work (although this is subject to frequent questioning and reinterpretation; see Sankey, 2000) and refer to both epistemological relativism and ontological relativism. They adopt the position of accepting epistemological relativism, which implies that nature is seen as a material reality (so we can measure pollution in a river, for example), whereas they reject ontological relativism, which argues that reality itself is determined by the observer (i.e. different observers might dispute the existence of the river). However, we would argue that when we move from the environmental domain to the sustainability domain, ontological relativism should be an accepted position; the existence of different discourses on sustainable development provides evidence for this and, we argue, is a critical issue when it comes to SA practice.

We define a discourse after Hajer (1993, p.45) 'Discourse is here defined as an ensemble of ideas, concepts, and categories through which meaning is given to phenomena'. We conceptualise a hierarchy of discourse which is relevant to the outcomes of a sustainability appraisal (Figure 1). This identifies two levels of discourse that can influence SA. At the

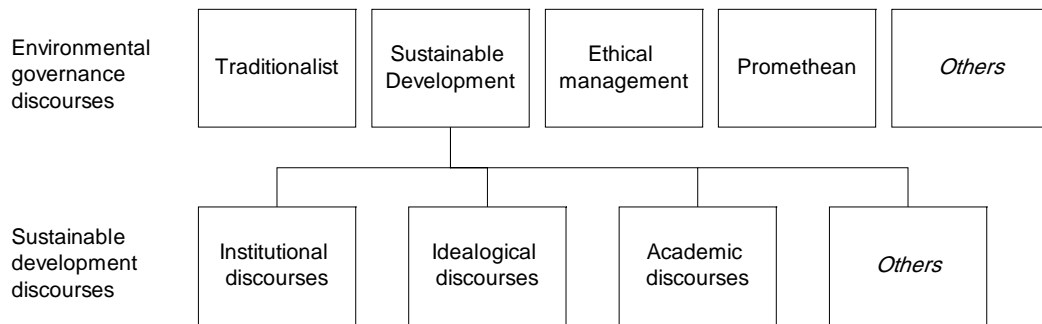


Figure 1. Discourse map

top level is consideration of environmental governance, for which a variety of discourses have been identified. We have indicated four potential discourses by illustrating the pluralism that exists at this level, though the discourses that are identifiable are likely to be context dependent. For example, in the context of biodiversity, Svarstad *et al.* (2008) identify four discourses, one of which, 'promethean', adopts a stance that the environment provides raw materials to facilitate human development, and that any consequent problems can be solved through human ingenuity. Another discourse is 'traditionalist', which focuses on stakeholders and believes that local actors are best placed to manage biodiversity, and will do so in a manner that facilitates coexistence with the environment in the long term. In the context of forest management, Clarke (2002) identifies a specific sustainable development discourse which presumes that development and conservation are compatible goals, and people who hold this view have been termed 'new conservationists' (Clarke, 2002). Clarke also raises the importance of ethics in a particular discourse which she terms the 'new steward'. We have taken the ethical theme as a separate environmental governance discourse (i.e. 'ethical management' in Figure 1) which reflects a belief that people should have an ethical relationship with the environment, and that ethical behaviour will facilitate appropriate environmental governance.

In conceiving Figure 1, we have drawn on findings from a limited amount of research. However, the aim has been to demonstrate that a range of discourses exist, of which sustainable development is just one; thus the figure is illustrative and should by no means be considered comprehensive. At our second level of discourse we have focused on sustainable development only. That is, we are illustrating the plurality of discourses that exist in relation to just one of the environmental governance discourses. O'Riordan (2000) refers to the ambiguity inherent in the phrase 'sustainable development', and this has led to a variety of discourses on what it means (Luke, 2005; Redclift, 2006). Mebratu (1998) identifies three major groups of definitions of sustainable development which are heavily dependent on the positions of those who promote them: the institutional version, the ideological version, and the

academic version. Mebratu (1998, p.504) analysed each group of definitions based on the following questions, which helped to identify the discourses associated with each group: 'What is identified as the source of the crisis? What is the core approach to the solution? What is the proposed solution platform? What is the key instrument for the solution?' Three separate discourses were proposed for each of the groups and, again, we would suggest that this presents only part of the full range.

For 'institutional discourses', Mebratu (1998) distinguishes between definitions provided by WCED, the International Institute of Environment and Development (IIED), and the World Business Council for Sustainable Development (WBCSD), with perspectives driven by, respectively, political consensus, rural development and business interests. It is important to clarify what is meant by the term institution, which are typically regarded as the rules of the game or habits that regulate interactions (Raina, 2003). We use this definition, but like Nykvist and Nilsson (2009) regard organisations (the actors submitted to institutional rules) as being often inseparable, and we consider that institutions are concerned with values and belief systems. The importance of institutions to the delivery of sustainability outcomes is emphasised by Nykvist and Nilsson (2009), who conclude that improvements in the consideration of sustainability issues by policy makers would not be made by the application of more advanced assessment frameworks, but by 'strengthening institutional arenas for social learning' (Nykvist and Nilsson, 2009, p.15). The implication here is that existing institutional discourses are not necessarily promoting sustainable development.

An example might be a change in emphasis of the European Union and the opportunity this has afforded certain institutions to impose their own interpretation of appropriate assessment outcomes. At the EU Cardiff Summit of 1998, the heads of government and the other EU institutions committed themselves to the integration of the environment into all EU policies, which marked the beginning of the 'Cardiff process' that gained momentum in subsequent councils, especially with the introduction of an SD strategy. However, at the European Council held in Lisbon in 2000 the 'Lisbon process' was subsequently agreed. This aims for the EU 'to become the

most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion' by 2010 (European Council (2000) Lisbon Presidency Conclusions 23 and 24 March 2000). One of the more recent outcomes of the Lisbon process has included a review of the Environmental Assessment Directive (Council of the European Communities, 1985) because of concerns that it is a significant burden to development (as it can cause delays and cost a lot of money). This review, which was commissioned by the Directorate General for Enterprise rather than the Directorate General for Environment, has identified a number of burdens placed on enterprises and taxpayers by the Directive, including too onerous a level of consultation, and screening thresholds being set too low such that too many environmental assessments are conducted (GHK Technopolis, 2008). The expectation is now that the Environmental Assessment Directive will be reviewed and possibly amended to address the recommendations of this study.

In considering 'ideological discourses' to delivery of sustainable outcomes, Mebratu (1998) distinguishes between eco-theology, whereby religious faiths highlight the spiritual dimension; eco-feminism, which assumes a correlation between the domination of nature and the domination of women; and eco-socialism, which considers that the environmental crisis is a product of failed capitalism which can only be solved through socialism that grasps collective control of nature. The rise of environmentalism was counter to the teachings of some faiths that espouse 'man's domination over nature' (Mebratu, 1998, p.508), leading to eco-theologians reinterpreting key texts. Martin (2003) describes the emergence of Christian communities in Latin America beginning to bypass state institutions to pursue sustainable policies. Eco-feminism equates man's domination of women with their domination of nature (Williams and Millington, 2004) and, as a discourse, has been found to have significantly influenced policy at the local and global levels over the past 30 years (Buckingham, 2004).

Finally, 'academic discourses' are divided by Mebratu (1998) into economist, ecologist and sociologist. The economist discourse is based on the assumption that all things can be valued and then traded. In the context of sustainability, this has led to distinctions between weak sustainability and strong sustainability. Cabeza Gutés (1996) defines strong sustainability as a condition whereby some natural capital (called critical natural capital) provides functions which are not substitutable by manmade capital – the stock of natural capital handed down to future generations must not be smaller than that enjoyed by the current generation. Weak sustainability, on the other hand, reflects a view whereby natural and manmade capital together comprise total capital; natural capital is considered to be substitutable for manmade capital, and weak sustainability occurs

whereby the level of total capital passed on to future generations does not decrease. The ecologist discourse distinguishes between shallow ecology and deep ecology (Jacob, 1994). The former is an anthropocentric approach that fails to acknowledge the interrelationships between all ecological variables and treats problems without understanding causes. The latter argues that human rights should not be prioritised over those of other species in nature, and that anthropocentric views of the world must be changed to acknowledge that humans have no right to dominate nature (Grey, 1993; Jacob, 1994; Williams and Millington, 2004). Mebratu (1998) argues that the concept of Gaia has qualified deep ecology discourse in that it conceives of the earth as a living organism rather than as a resource. The social ecology discourse assumes a relationship between the social and the ecological, and considers that the whole planet is a community of which we are members (Clark, 1997). Apart from noting some of the academic discourses pertaining to SD, a key point we wish to make here is Mebratu's argument that all academic discourses experience 'conceptual shortcomings of one type or another that are related to their reductionist epistemological foundations' (Mebratu, 1998, p.512). In the context of SA this is a relevant criticism, given that the approach of formulating a framework based on a finite number of environmental indicators is inherently reductionist (Bell and Morse, 2008; Gasparatos et al, 2008).

Our brief discussion in relation to Figure 1 demonstrates that, in relation to environmental decision making, a range of different discourses are likely to be influencing outcomes to varying degrees in varying ways. The questions we are grappling with pertain to the extent to which SA can favour particular discourses and, indeed, whether it might actually adopt a discourse that will be contested by competing SD discourses (i.e. would be considered to be incompatible with SD by advocates of alternative discourses), or be counter to the definition of sustainable outcome set out in the introduction to this paper.

## **Sustainability appraisal in England**

As a means of improving the implementation of sustainable development, the Planning and Compulsory Purchase Act 2004 (United Kingdom Parliament, 2004) introduced a requirement for local authorities in England to conduct a sustainability appraisal of their spatial plans (sustainability appraisal is a specific procedure implemented in England, which has similar elements to many other forms of sustainability assessment practice elsewhere). This requirement was an addition to the obligation imposed by the European Directive on Strategic Environmental Assessment (SEA) (European Parliament and the Council of the European Union, 2001), which requires that plans and programmes undergo SEA.

To avoid duplication, the government produced guidance indicating how to conduct sustainability appraisal while at the same time meeting the obligations of the SEA Directive (Office of the Deputy Prime Minister, 2005). Sustainability appraisal as described by this guidance is objectives driven, in that there is a need to derive the aspirational objectives relevant for each plan, and also relevant targets and indicators that can be used to assess the performance of alternatives (for example, building new houses on greenfield sites as opposed to brownfield sites). Government guidance suggests likely objectives and indicators (Office of the Deputy Prime Minister, 2005), and there are many existing indicator sets that can help put together a Sustainability Appraisal Framework (SAF) (for example Oxley *et al.*, 2003; Ramos *et al.*, 2004; Galobardes *et al.*, 2006; Department for Environment Food and Rural Affairs, 2007a,b).

As the Planning and Compulsory Purchase Act 2004 brought in a new planning system including a requirement for local authorities to develop new spatial plans, there was an immediate need for a large number of SAs. Thérivel and Walsh (2006) reported that several hundred assessments were in progress in July 2005, one year after the obligations were imposed. Since that time, further research has critically examined the practice of SA and identified a number of issues impairing its effectiveness. Land Use Consultants and the Royal Town Planning Institute (2008, p.6) identify the following key themes related to SA effectiveness (in improving the delivery of sustainable development outcomes through the spatial planning process):

1. Delivery of sustainable outcomes
2. Skills and training
3. The evidence base
4. Effective consultation
5. Assessing significance
6. Integration with other assessment procedures
7. Effective use of SA in decision-making.

Although themes 2 to 7 might be regarded as capacity-building issues that would be common to the introduction of any new decision-making tool (see, for example, George *et al.*, 2001; Cherp and Golubeva, 2004), the delivery of sustainable outcomes was a theme included because of evidence that SA did not always achieve this (Benson and Jordan, 2004; Land Use Consultants and The Royal Town Planning Institute, 2008). One explanation for this could be that the tool is simply not working well enough, and that capacity building will resolve this. Another explanation could be that the tool is not always set up to deliver sustainable outcomes – a possibility that this paper will explore further.

Based on analysis of SA conducted on the core strategies (which set out a general spatial vision for a local authority area and the objectives for delivery) of 45 separate spatial plans, Thérivel *et al.* (2009)

found that the plans were predicted to have beneficial socioeconomic outcomes but only mildly positive, or even negative, environmental outcomes. Based on interviews and questionnaires of planning officers responsible for preparing these spatial plans, Thérivel *et al.* (2009, p.163) noted that planning officers reported that government ‘emphasis on the delivery of specific housing and employment levels skews the planning process in favour of social and economic issues’.

This begs the question, why would the development of sustainability appraisal lead to a focus on socioeconomic output at the expense of the environment? One explanation forwarded by Morrison-Saunders and Fischer (2006) is that development (i.e. the need for planning) is development driven, as no-one puts forward a development that is not grounded in socioeconomic gain or growth. They further suggested that ‘integrated forms of impact assessment may simply serve to promote dominant economic perspectives over broader sustainability and environmental concerns’ (Morrison-Saunders and Fischer, 2006, p.23). Economies are grown, but environments are protected (at best to maintain status quo, but more likely to suffer from the ‘nibble, nibble, nibble’ of incremental loss). So, there is some evidence for spatial plan outcomes being driven by agendas favouring particular discourses other than sustainable development. Although potentially consistent with the notion of weak sustainability explained previously, the loss of natural capital in the face of positive socioeconomic capital growth is at odds with the three goals of SD mentioned at the start of this paper. The next two sections examine how SA might be manipulated to favour particular discourses.

### **Sustainability assessment: framing the framework**

The key component of any sustainability assessment is the sustainability indicator. In England, the concept of SA revolves around setting sustainability objectives that set out the aspirations for stakeholders for a given area. In order to then determine the current state of sustainability, indicators are associated with each of the objectives, and targets set to ensure that any intervention (such as a new development or land use plan) moves in the right direction. There is a lot of literature on sustainability

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indicators, but a commonly cited classification is the DPSIR framework, used by, among others, the European Environment Agency (European Environment Agency, 2001) and developed from a simpler PSR framework that the Organisation for Economic Cooperation and Development (OECD) helped to develop (Organisation for Economic Cooperation and Development, 2003). DPSIR stands for Driving forces (which are social, economic or environmental developments), Pressures (exerted on the environment by the driving forces), State (of the environmental changes), Impacts (caused by the change in state of the environment) and Responses (which try to manage impacts through feeding back to driving forces, pressures, states or impacts) (European Environment Agency, 2001).

Svarstad *et al.* (2008) use discourse analysis to determine the social constructions of reality. For biodiversity issues, they identify four discourse types and examine the relevance of the DPSIR framework for each one. They found that 'DPSIR tends to reproduce particular discursive positions' (Svarstad *et al.*, 2008, p.123), i.e. the indicator framework adopted has already adopted a particular worldview even before individual indicators have been selected or applied. The indicator framework used is typically provided through official guidance (for example Foxon *et al.*, 2002; Office of the Deputy Prime Minister, 2005), where institutional discourses may have an influence.

How should indicators be chosen? Donnelly *et al.* (2006) suggest a framework to constrain the choice of indicators. Essentially this framework insists on maintaining the links between the sustainability objectives, and associated targets for achieving these objectives, and the indicators that are used to monitor progress. A key point is that where existing data sets do not exist to facilitate measurement towards targets, then some efforts need to be made to develop them, rather than simply relying on existing data sets. Unfortunately, practice suggests that, frequently, existing data sets are used as the basis for indicators even if not derived for use in SA and are of limited value (Donnelly *et al.*, 2007). Also, the evidence is that response indicators are favoured over those indicating states or impacts (Thérivel *et al.*, 2009); for example, an objective of reducing contribution to climate change might have as an indicator the energy efficiency of new homes built, rather than CO<sub>2</sub> emissions from housing stock; the former of those would look positive, the latter illustrates that emissions will still increase if more houses are built (it could also be argued that the former is easier to measure than the latter, making it favoured by consultants). Thus, there is evidence that indicators are chosen to favour anthropogenic, pro-development discourses.

Workshop approaches involving a broad range of stakeholders are suggested as a suitable technique for deriving appropriate indicators (Donnelly *et al.*, 2007). Whereas Bell and Morse (2008) emphasise the need to include representatives of affected

populations in the process, which could be a mechanism for preventing particular bias, evidence suggests that the public are not involved in indicator selection as a matter of course. In England, Thérivel and Walsh (2006) found that in the SA process the most citizens can expect is to be consulted on the SA framework rather than involved in deliberation; even then, according to a survey undertaken in 2005, only 22% benefited from this consultation opportunity. Thérivel *et al.* (2009) point out that the SA procedure was changed by government in mid-2008 in a bid to speed up the process of developing and approving spatial plans; only three statutory consultees are now consulted on the scope of the SA framework, and the public have to be involved only once the SA of the draft plan has been completed. The suggestion here is that some key organisations, particularly developers and consultants, develop SA frameworks that favour their own discourses, and the opportunity to incorporate multiple discourses (including ecological ones) through the involvement of a broad range of stakeholders in establishing the SA framework, is missing.

### Sustainability indicators: framing the results

Once sustainability indicators have been agreed, the predicted sustainability outcomes are still dependent both on the alternatives to be tested and on the baseline against which the individual indicators are tested. The first of these issues raises another concern that might be levelled at some forms of SA, in that essentially they perform a ranking exercise rather than specifically identifying the sustainable development outcomes of a decision to proceed with a particular activity. For example, if a particular proposed policy is to build 10,000 new homes on an old industrial site, the alternative policy might be to build 10,000 new homes on existing agricultural land instead. One of these alternatives usually performs better than the other when viewed against sustainability objectives and measured using sustainability indicators. This might make those involved feel happier about the policy alternative chosen, but is it sustainable just because it is better? Is there no possibility to not build more houses, for example? The particular problem of deriving good alternatives has been defined as a significant weakness of SA in the UK (Institute of Environmental Management & Assessment, 2006) and is generally left to those formulating the spatial plans, who are also responsible for the SA. Thus, irrespective of the indicators chosen, the question of which alternatives will/will not be considered is in the hands of the plan makers and project proponents (this same problem has long been recognised as a weakness of traditional EIA practice too; see Steinemann, 2001).

An additional conundrum raised by this 'ownership' of alternatives (flagged in Pope *et al.*, 2004; Pope *et al.*, 2005) is that it facilitates sustainability

appraisal to make relative evaluations (i.e. which of these alternatives performs best in terms of sustainability?) rather than absolute evaluations (i.e. is this plan/proposal sustainable?). For example, if we take the example of building 10,000 new homes again and assume we have an indicator based on the emissions of greenhouse gases (following on from the example used in the previous section), the sustainability implications can be interpreted either as being positive or negative. If viewed in absolute terms, the impacts are negative as 10,000 new homes will produce more greenhouse gases, however energy efficient they are. However, if viewed in relative terms against the greenhouse gases emitted by existing housing stock, probably built to lower standards, the emissions per household would be much less and the sustainability implications framed as being positive. Thérivel *et al.* (2009) also found that the appraisals often acknowledge negative environmental impacts as being inevitable, given a need to develop, but without testing whether any critical natural capital is lost. Rather than blithe acceptance of negative impacts on the natural environment, a true SA would provide for appropriate offsets so as to maintain natural capital. As noted previously, this relates to the tendency to grow socioeconomic capital through new development while at the same time nibbling away at natural capital.

## Conclusions

It is clear that sustainable development is a ubiquitous policy goal, and that implementation strategies have evolved since the early 1990s when the first substantial efforts were made. Our analysis of discourses, however, suggests that sustainable development is one of a number of environmental governance discourses, and that there are a large number of sustainable development discourses. This muddies the waters in terms of what SA is being expected to achieve. In short, sustainable development means different things to different people or institutions, and therefore the goals of SA are seen differently.

The development of a sustainability appraisal framework can favour particular discourses of both environmental governance and sustainable development, and there is an urgent need to establish both the discourses that exist and the extent to which some discourses are marginalised. Our analysis suggests that there is some cause for concern in this regard, but further research is needed to determine whether this issue is significant. Of particular relevance here to SA practitioners is that the risk that future follow-up studies (i.e. investigating the outcomes of decisions made in the name of sustainable development) will record findings of non-sustainability for specific assessment processes that were deemed to be appropriate at the time. It is in our collective interests to be sure that what

practitioners put forward as a legitimate SA is defensible in the longer term. We need to do this during each SA we conduct. This is of particular relevance in England, where SA is the preferred approach for implementing the Strategic Environmental Assessment Directive, which implies that unsustainable outcomes, at least in terms of environmental capital, should be addressed:

‘Member States shall monitor the significant environmental effects of the implementation of plans and programmes in order, *inter alia*, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.’ (European Parliament and the Council of the European Union, 2001, Article 10.1).

It is also clear that the process of selecting and using sustainability indicators favours particular discourses. There is a serious concern that SA has within it so much flexibility, covering an area which is so complex, that the results produced could be argued to be meaningless by those not sharing the same discourse.

It may be that, in the 1970s, the understanding of ‘environmental protection’ in the context of EIA was equally or comparatively uncertain. It has taken 40 years of incremental improvements to EIA for us to reach the present position whereby, through practice, we have gained experience of how to regulate EIA processes. However, there is still considerable debate over what makes it effective. It is possible that SA is at the start of a similar cycle of learning and improvement. However, where EIA purported to have a single-issue focus (i.e. on natural capital), SA attempts to be a ‘jack of all trades’. We would caution that there is an immediate need for reflection on the methods adopted and the interpretations of the results in the context of what really does constitute a sustainable outcome. At present, SA seems prone to manipulation to suit particular discourses.

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