

Applying Sustainability Principles in Practice: Guidance for Assessing Individual Proposals

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Abstract

International and Western Australian sustainability principles are converted into guidance statements that can help practitioners apply them to individual proposals. Our framework for sustainability assessment was based on a Western Australian case study of a preliminary sustainability assessment of an urban development proposal. The aim is to help operationalise sustainability assessment for individual proposals. To meet the challenge of sustainable development, all sustainability principles need to be addressed. During decision-making any trade-offs made that favour particular principles need to be justified and explained in a transparent manner. Our case study application demonstrated that relevant sustainability principles already existed in local legislation, regulation and policies, providing the necessary socio-political support to implement sustainability assessment with the current institutional arrangements.

1. Introduction

Sustainability assessment (SA) simply defined is a process that directs decision-making towards sustainability (derived from Hacking and Guthrie 2008). Depending upon the decision-making context in which it is applied, two broad and inter-related purposes can be distinguished:

- To improve the sustainability outcomes of planning and decision-making; and
- To evaluate these sustainability outcomes against accepted sustainability benchmarks.

The former approach is increasingly being adopted by proponents themselves to improve internal decision-making and planning and subsequently the overall sustainability of the final proposal or proponent activities. This application can be termed 'internal SA' (Pope 2006). While the internal process may involve assessment of a proposal against sustainability benchmarks, the focus is usually upon maximising the environmental, social and economic benefits of the proposal.

The primary aim of this paper relates to the second of these two purposes, namely to translate international sustainability principles into a framework and benchmarks against which the sustainability characteristics of a proposed activity can be evaluated. The approach is a derivation of traditional impact assessment and is an example of 'external SA' (Pope 2006).

Arguably, project based environmental impact assessment (EIA), which has long been in use around the world for development proposals likely to have a significant effect on the environment, can be considered a form of SA. However, Hacking and Guthrie (2008) note that traditional project based EIA with a biophysical emphasis represents the 'lowest' form of SA in the spectrum of possibilities and thus least likely to lead to an outcome of sustainability. To truly represent SA, traditional EIA would need to be expanded to include socio-economic considerations in equal significance as the biophysical, be more strategic in nature and effectively integrate all of these aspects into a robust assessment process. There is increasing interest in expanding traditional project EIA into full sustainability assessment. For example in our home jurisdiction of Western Australia, two recent reviews of project approval processes have recommended the extension of statutory EIA to a full SA process (Government of Western Australia 2002; Auditor General 2008). This paper presents a suggested approach for doing this. While we have partly grounded our

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approach in a Western Australian context, the overall principles and approach could be equally applied internationally.

2. Sustainability Principles

Undertaking a comprehensive SA is not simply a matter of extending existing EIA processes to ensure that social and economic impacts are evaluated in the same manner that biophysical impacts have traditionally been addressed in project based EIA. Gibson et al (2005) argue that whilst the representation of sustainability as the three pillars or triple bottom line considerations of environment, society and economy is convenient in terms of existing governance structures aligned into these separate specialisations, this conceptual model does not truly represent sustainability. They argue that the separation of the three pillars is overly reductionist, does not recognise the interactions between the various factors and underplays the more qualitative and value-based dimensions of sustainability. Table 1 lists their eight sustainability criteria along with a similar suite of sustainability principles, but in this case divided into 'foundation principles' and 'process principles', from the Western Australian State Sustainability Strategy (Government of WA 2003). It is important to realise that the last criterion of Gibson et al (2005) demands that all principles of sustainability be applied at once, seeking mutually supportive benefits and multiple gains. In other words, sustainability can only be delivered if all principles are adequately addressed or attained.

A preliminary scan of Western Australian environmental and planning legislation, regulations and policies also uncovered many of these principles or their equivalent (i.e. specific wording varies) that are meant to be applied to new development applications. For example, the 2003 amendments to the *Environmental Protection Act 1986 (WA)* which establishes the EIA process in Western Australia defines five sustainability principles that encapsulate many of the Gibson et al (2005) criteria. We found this to be very encouraging because it means that SA can be applied in Western Australia even without specific guiding legislation or procedures being established for this purpose (Morrison-Saunders 2008).

Table 1 Two Examples of Sustainability Principles

Gibson (et al 2005) Sustainability Criteria	Government of WA (2003) Sustainability Principles
<ul style="list-style-type: none"> • Socio-ecological system integrity; • Livelihood sufficiency and opportunity; • Intragenerational equity; • Intergenerational equity; • Resource maintenance and efficiency; • Socio-ecological civility and democratic governance; • Precaution and adaptation; and • Immediate and long term integration. 	<p><i>Foundation principles</i></p> <ul style="list-style-type: none"> • Long-term economic health; • Equity and human rights; • Biodiversity and ecological integrity; • Settlement efficiency and quality of life; • Community, regions, 'sense of place' and heritage; • Net benefit from development; • Common good from planning; <p><i>Process principles</i></p> <ul style="list-style-type: none"> • Integration of the triple bottom line; • Accountability, transparency & engagement; • Precaution; and • Hope, vision, symbolic and iterative change.

We envisage that practitioners internationally may find similar provisions in their legislative and policy mechanisms. Some recent Canadian assessments of projects have included sustainability evaluations (e.g. Whites Point Quarry and Marine Terminal Project Joint Review Panel 2007, Kemess North Copper-Gold Mine Project Joint Review Panel 2007, Voisey's Bay Mine and Mill Development Joint Environmental Assessment Panel 2007); none of these follow a standardised approach but were tailored to suit the specific local legal and policy frameworks as well as the core values of affected communities. Should existing provisions for sustainability not exist, then the Gibson et al (2005) criteria nevertheless provide a comprehensive basis for structuring and guiding SA practice.

An important aspect of SA which is evident in the process principles in the Government of WA (2003) list in Table 1, is that the manner in which a SA is performed is equally important as the outcomes. Thus there are both substance and process aspects of what might be termed 'best practice' SA.

3. Application of Sustainability Principles to Proposals

In this section of the paper we present a synthesised amalgamation of the Gibson et al (2005) sustainability criteria along with others drawn from local Western Australian sources in order to provide the basis for a robust SA foundation against which any development proposal should be assessed if it is to demonstrate sustainability. We initially developed our framework for an urban development proposal but our intention here is that any proposal could be assessed with it.

PRINCIPLE 1 – Precaution

Respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, plan to learn, design for surprise and manage for adaptation (Gibson 2006).

The precautionary principle is a long-standing element of sustainability thinking. A proposal based on sound sustainability principles, which cannot show (using reliable evidence) that a proposed action will not lead to serious or irreversible damage on the sustainability estate, would:

- err on the side of caution in contentious or uncertain aspects of development proposals;
- seriously consider 'not proceeding' as an option where there is too much scientific uncertainty about particular aspects of a proposal or where the negative consequences of the proposal outweigh the benefits;
- clearly demonstrated how negative impacts of a proposed development would be managed.

PRINCIPLE 2 – Inter-generational equity

Favour present options and actions that are most likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably. (Gibson 2006)

The concept of inter-generational equity has been central to the definition of sustainable development since the release of the Brundtland Commission's report (World Commission on Environment and Development 1987). While this principle is an essential part of any list of principles for sustainability, it is less easy to identify many examples of this principle being used in practice. However, together with principle 1 it does suggest a more cautious approach to development.

This principle also calls attention to the legacy of decisions made now about particular development proposals for the future. For example, questions such as:

- Will a particular development be economically viable in the future?
- Who will have responsibility for managing negative impacts of a development in the future?
- Will commitments by proponents be acted upon in the future?

A proposal based on the principle of inter-generational equity would:

- demonstrate enduring value for future generations;
- clearly outline the future negative impacts (local, regional and cumulative) of the proposal and how they will be managed, and by whom, and how future liability will be managed;
- hold proponents accountable for commitments (for example through mechanisms such as development bonds);
- demonstrate that the proposal will not impact on the long-term performance of existing significant local or regional land use activities.

PRINCIPLE 3 – Ecological integrity and biological diversity

Protect biological diversity and maintain essential ecological processes and life-support systems.

A proposal based on the principle of ecological integrity and biological diversity would prioritise environmental protection and ecological integrity so that any change in the status quo results in net environmental benefit. This will require the implementation of biodiversity offsets where unavoidable residual impacts on important species or ecosystems remain following implementation of other forms of mitigation (e.g. see <http://www.forest-trends.org/biodiversityoffsetprogram/>).

PRINCIPLE 4 – Equity and quality of life

Ensure equity of opportunity for everyone, particularly the poorest and most vulnerable members of the community and seek to create a good quality of life for everyone.

The concept of *intra*-generational equity has also been central to the definition of sustainable development since World Commission on Environment and Development (1987) brought social justice and poverty issues to the fore. It is now an essential part of any list of principles for sustainability. Recently the Western Australian Council of Social Services have drawn up practical guidance for applying social sustainability principles in decision-making (Hodgson 2008).

A proposal based on the principle of equity and quality of life would:

- provide a range of community amenities and services available to all in the community;
- ensure that any affordable housing initiatives are provided and protected into the future. In particular, proponents should be held responsible for commitments in this area;
- demonstrate how the proposal will create a cohesive community, based on issues such as for example, the social implications of high-rise developments, likely transport use patterns, and facilities provided for communities.

PRINCIPLE 5 – Efficiency

Reduce overall material and energy demands on social and ecological systems.

This principle would also normally encapsulate the 'polluter pays principle' – that those who generate pollution and waste should bear the cost of containment, avoidance or abatement – is aimed at reducing the demands placed on social and ecological systems over time through continuous improvements in efficiency wherever possible and minimising the generation of waste. In our study we found that most of the proponents' 'claims' for sustainability rested on this principle.

A proposal based the principle of efficiency would:

- demonstrate how the proposal is based on energy efficient design;
- demonstrate how the proposal will promote local employment and mixed use (i.e. creating sustainable social environments that avoid or minimise the need for people to travel long distances to meet their needs);
- demonstrate how the proposal will realistically incorporate renewable energy generation and other sustainable resources;
- demonstrate that all reasonable and practicable measures have been taken to minimise the generation of waste and its discharge into the environment;
- undertake a life-cycle assessment of the construction process and operational issues (such as energy usage).

PRINCIPLE 6 – Democracy and governance

Ensure that proposals are developed through active public participation in transparent decision-making processes.

The *process* of making decisions about sustainability is increasingly considered as important as the content of sustainability decisions. In the case of urban development for example, the way in which we plan and develop land and resources is equally important as the outcomes themselves. Public participation has long been a core principle of impact assessment and it incorporates the

principle of natural justice (e.g. Morrison-Saunders and Early 2008) that people affected by proposals have the right to participate in decision-making for them.

The practice of public participation and community engagement is now well established, and communities have come to expect a genuine opportunity to be engaged in making decisions. In Western Australian the Office of Citizens and Civics has published a wide range of guides to public participation and community engagement in Western Australia (see <http://www.citizenscape.wa.gov.au/index.cfm?event=ccuPublications>) .

In practice this means that proponents of development proposals should not follow the 'old' secretive model of 'Decide – Announce – Defend', but should develop proposals through an open and consultative process, engaging local communities and relevant stakeholders. Proponents should also be aware of feelings of 'consultation fatigue' of many in the community, and therefore new development proposals should draw on previous community engagement processes, where community members have already clearly identified their views and preferences.

A proposal based on the principle of democracy and governance would:

- genuinely engage the affected community (local, regional or national as appropriate) in the future vision, planning and development of the proposal area;
- undertake an independent community engagement process, rather than a process solely conducted by the proponent;
- honour the results of previously conducted consultation processes.

PRINCIPLE 7 – Immediate and long-term integration

Decision-making processes should reflect the equal importance of each principle of sustainability, and mutually supportive benefits should be sought without compromising any individual principle.

This principle demands that all seven principles of sustainability be applied at once. Given the current dominance of economic considerations in decision-making and planning this principle essentially means in practice that environmental and social considerations should be factored into decision-making, and not disregarded in the face of economic benefits.

While sustainability in theory calls for integration, sustainability in practice very often means some level of trade-off between different sustainability principles or different sustainability dimensions (e.g. short-term vs. long-term or local vs. regional). The process of managing potential trade-offs then becomes very important, and Gibson et al (2005) outline a number of sustainability decision-making trade-off rules:

- *Maximum net gains* - any acceptable trade-off must favour achievement of the most positive feasible overall result, while avoiding significant adverse effects;
- *Burden of argument on trade-off proponent* - the burden of justification falls on the proponent of the trade-off;
- *Avoidance of significant adverse effects* - a significant adverse effect on any sustainability requirement area cannot be justified unless the alternative is acceptance of an even more significant adverse effect.
- *Protection of the future* - avoid displacement of a significant adverse effect from the present to the future;
- *Explicit justification* - all trade-offs must be accompanied by an explicit justification based on openly identified, context specific priorities as well as the sustainability decision criteria and the general trade-off rules; and
- *Open process* - proposed compromises and trade-offs must be addressed and justified through processes that include open and effective involvement of all stakeholders.

In contrast with this, approval decision-making in traditional approaches to EIA is often the responsibility of government ministers and takes place behind 'closed doors'.

A proposal based on the principle of immediate and long-term integration would:

- demonstrate that all of the principles of sustainability are being met and that there will be a net benefit;
- where proponents are proposing trade-offs, they should:
 - avoid significant adverse effects;
 - maximise net gains; and
 - explicitly justify all proposed trade-offs through an open process.

4. Conclusion

In this paper we have attempted to translate sustainability principles into statements that can be operationalised in the sustainability assessment of individual proposals. We have found this approach to be useful in the ex-post evaluation of a major land use development proposal in Western Australia. By mapping progress with each of the seven principles we were able to quickly identify the strengths and shortfalls of that particular proposal. We believe that this approach can be easily adopted and adapted for use elsewhere in the world, drawing upon any local policies or regulations incorporating aspects of the sustainability principles.

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