

HOW DOES EIA INFLUENCE DEVELOPMENT PROPOSALS?

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EIA produces variable and often minor improvements in the environmental protection outcomes of development proposals. Explanations are offered based on research into the process and practice of EIA.

1 Introduction

Environmental impact assessment (EIA) is applied to major development proposals as a pre-implementation appraisal tool. EIA was intended to reduce the environmental impacts of human activities by a number of mechanisms including by influencing decision-making in the planning and design of development proposals (Caldwell, 1998). In a legislative context, EIA systems require major development proposals to be referred for screening once adequate conceptual design information is available to indicate the potentially significant impacts. If EIA is required, a series of procedural steps are undertaken including: the application of scientific methods to predict the environmental and social consequences of proceeding; evaluation of alternatives and mitigation measures to address significant impacts; public review; evaluation and recommendations by the Regulatory Authority; and a final consent decision by an authorised Government Minister or bureaucrat. EIA is intended to promote instrumental learning in the form of better decision-making by proponents and improved management and mitigation of the impacts of major development proposals. EIA has also been envisaged as promoting conceptual learning, that is changing the behaviour of proponents by increasing the consideration of environment and sustainability issues in planning and design, and transformational learning, that is changing the norms and values that underpin planning and design towards more sustainable premises (Sánchez & Mitchell, 2017).

EIA is associated with modest success in reducing the environmental impacts of major development proposals that have undergone appraisal (Sadler, 1996). Proponents have been observed to select lower impact alternatives, make design changes and commit to mitigation and management measures in response to predicted environmental and social impacts. However, these responses are highly variable both in terms of the degree and frequency of design changes (Oosterhuis, 2007). Further there is little evidence of conceptual learning and no evidence of transformational learning, in spite of over 40 years of EIA practice in Australia and other jurisdictions (Riley, 2016).

The variable influence of EIA on major development proposal planning and design, and apparent lack of conceptual and transformational learning draws attention to the mechanisms by which EIA influences planning and design. A better understanding of these mechanisms would provide a basis for achieving more profound changes and more consistent outcomes in terms of reduced environmental impacts of major development proposals and may also shed light on the lack of conceptual and transformational learning.

With these issues in mind, an investigation was carried out on the process and practice of EIA in Australia, specifically examining by what ways and means EIA acts to influence planning and design. The Australia-based study involved interviews with 52 highly experienced actors in EA in categories of proponents (senior management, project

managers and design managers and environmental managers), EIA consultants, assessment officers and senior bureaucrats from Regulatory Agencies, statutory decision-makers and representative of NGOs. Interview transcripts were analysed to identify recurring themes and insights in the relationship between EIA and planning and design.

2 Results and discussion

Many informants, and almost all informants from Regulatory Agencies, considered that influencing the planning and design of major development proposals to reduce environmental impacts was the main purpose of EIA. All agreed that the ideal scenario occurred when proponents incorporated environmental considerations into decision-making about planning and design proactively, and from the earliest stages, which often included planning and design steps that took place before the proposal had been submitted for screening.

In practice, all informants agreed that EIA's influence on planning and design was highly variable. Some proponents were proactive in incorporating environmental considerations into planning and design. Others were highly resistant and would only adopt mitigation measures or agree to offsets to meet compliance requirements when pressured by Regulatory Agencies, or when forced by conditions imposed by Regulatory Agencies. Where proponents did make more significant design changes in response to issues raised during EIA, whether voluntarily or under pressure, it was usually highly disruptive to their schedules and costs. Notably, while resistance of proponents was a major cause of procedural delays, the responsiveness of proponents to EIA was not a factor in the ultimate consent decision, as refusals are very rare in Australia. Failure of proponents to respond to (host) community issues was also a significant factor in procedural delays if Regulatory Agencies feared political backlash, but again rarely resulted in a negative consent decision.

Considering those proponents that were proactive in incorporating environmental considerations into planning and design, these organisations generally had prior experience in EIA and/or experienced project and design managers within the planning and design team. Other characteristics included: availability of funding and resources; access to experienced EIA specialists from the earliest planning phases; ability to strategically select which development opportunities to pursue; and strongly valuing a positive corporate reputation. However, the correlation between these characteristics and the influence of EIA on planning and design is not just related to experience and resource availability.

The study showed that the key determinant of the influence of EIA on planning and design was the proponent's perception of EIA as a risk to schedule and financial viability/profitability objectives and the resultant efforts to minimise this risk. The EIA process is characterised by high levels of uncertainty around time frames, as well as the potential to expose proponents to public opposition and controversy. Unanticipated design changes and requirements for additional mitigation measures can delay planning and design and affect viability and/or profitability. Proponents that are aware of and sensitive to this risk adopt a range of risk management strategies including:

- Avoiding initiating major development proposals that are likely to be controversial and/or difficult to get through the EIA process in a timely manner;

- Consulting with senior officials at Regulatory Agencies prior to screening and seeking close interaction with Regulatory Agencies throughout the process;
- Incorporating environmental considerations into decision-making from the earliest conceptual stages of major development proposal planning and design;
- Ensuring that legislated environmental protection and quality standards are achieved and impacts on environmental values that are important to host communities are avoided or minimised;
- Considering abandonment if mitigation of predicted environmental impacts threatens commercial viability, or if significant locally-based opposition arises;
- Accepting the need for EIA and not resisting or trying to circumvent EIA process and procedural requirements;
- Seeking trusting and constructive relationships with Regulatory agencies which promote collaborative problem-solving; and
- Prioritising issues of concern to host communities and making changes in anticipation of and/or in response to issues raised.

In this scenario, EIA specialists take on the role of risk managers, minimising the risk that EIA poses to planning and design schedule, cost and reputation objectives. This provides them with significantly more opportunity to engage with the planning and design team from the earliest stages, ensure that environmental considerations are addressed in proponent decision-making and advocate for design changes that might minimise the risk of delay or controversy.

This finding indicates that the action-forcing mechanism created by a mandatory EIA requirement is the most important aspect of EA procedure as proponents seeking a smooth path through the process are motivated to minimise environmental impacts in the pre-screening stage and throughout planning and design.

Post-screening, there is little indication that the procedural steps of EIA influence planning and design. A key reason for this is the misalignment between EA procedural steps and planning and design steps and the absence of a requirement to integrate the two processes. Not only does EIA start too late to influence decision-making in the conceptual design stages, but throughout the process the timing of information generated by EIA does not match the information needs of planning and design teams. While outputs of planning and design are required to inform the EIA process, there is no requirement for proponents to demonstrate that information generated from EIA was used to inform planning and design. Proponents are not required to provide documentation of alternatives analysis until the EIA report is produced, at which point proponents are highly resistant to external input. There is no requirement for proponents to adopt the lowest impact alternative, and justification for both the overall major development proposal, and selected alternatives is usually restricted to observations that if the proposal does not proceed in the proponent's preferred form, the economic and employment benefits will be lost or reduced. Thus proponents can and do get through the EIA process with minimal integration and with little environmental input to planning and design decisions, and EIA does not hold proponents accountable for their decision-making.

Formal input from the public, Regulatory Agencies and other government advisory agencies comes when the EIA report is released, which again is very late in the planning and design process. At this stage, Regulatory Agencies can and do pressure proponents to make

changes to address issues raised, and have the option to impose conditions where proponents resist. However, the behaviour of Regulatory Agencies is subject to the dominant economic growth imperative that demands that major development proposals be approved in all but exceptional cases. The outcomes sought from EIA are narrowly framed based on a relatively weak form of ecological modernisation that assumes that externalities of major development proposals can be effectively addressed through technology, mitigation measures and offsets. Hence the main changes that arise at this stage are additional mitigation measures and offset requirements to bring major development proposals in line with environmental policies, standards and guidelines. While the public often raise broader issues about the justification for and appropriateness of a particular proposal, discourses of these types are usually disregarded as either being outside the scope of the appraisal, or arising from subjective viewpoints rather than evidence-based assessment.

A final set of observations arising from the study is that while the EIA requirement can increase the influence of environmental matters on decision-making of (risk-aware) proponents, the issues that are most influential are those that are objective, reasonably certain and can be expressed in quantitative terms, and those which are clearly described in policies, standards and guidelines. EIA specialists find these matters are relatively straightforward to translate into threats to planning and design schedule or cost drivers because the consequence of not addressing the impact can be clearly stated. Thus, for example, matters such as clearing of known habitat of an endangered species or compliance with air quality standards are likely to trigger a design change. Issues that are subjective in nature, and/or have high levels of uncertainty have much less influence because the consequence of not addressing the impact can only be vaguely described. Typical impacts that fall into this category are some types of social impacts, indirect impacts on biodiversity values, cumulative impacts, broader landscape-scale impacts and long-term impacts. It is also the case that impacts with high degrees of subjectivity and/or uncertainty are more difficult to evaluate and this research highlighted that EIA specialists and assessment officers feel poorly equipped to undertake these evaluations.

3 Implications for the process and practice of EIA

Encouragingly, this research indicates that there are many examples of proponents who proactively address environmental considerations in decision-making. These strategies are triggered by and strongly reinforced by an action-forcing mechanism that makes proponents 'stop and think' about environmental consequences before proceeding. Proponents with experience EIA specialists and planning and design teams, adequate resourcing and concern for reputation to the public are more likely to adopt these strategies.

A better understanding of the factors that promote and constrain EIA's influence on proponent decision-making and the environmental protection outcomes of major development proposals also supports suggestions for improvements.

Opportunities for EIA to influence proponent decision-making are lost through lack of alignment of EIA procedure with planning and design. Some 'tweaks' could be made to the EIA process to promote integration, for example requiring proponents to submit more detailed options evaluation reports at screening and in the EIA report. A strong 'clearly unacceptable' category at the screening decision would encourage proponents to pay more attention to environmental considerations in the conceptual design stage for fear of rejection

at the screening stage. Training, guidance and support to proponents, and specifically project managers and design managers may also help to promote use of internal options evaluation and multi-criteria decision-making techniques. Better resourcing of Regulatory Agencies may allow suitably experienced assessment officers to interact more proactively and constructively with proponents, including in the pre-screening stage.

Participants in this research also suggested that EIA procedure could be re-oriented or reconceptualised as an environmental design process. Brown and Hill's (1995) oft-quoted but little utilised concept of decision-scoping is highly relevant here. In an environmental design process, environmental assessment activities could be mapped to the planning and design process and specifically the decision-context, that is, the way that proponents make decisions about planning and design. A similar 'bespoke' approach is already considered best practice for SEA, although it is rarely seen in practice. The approach could be further developed by reference to case studies where proponents had successfully incorporated environmental considerations into decision-making.

The other key constraint on EIA's influence on major development proposals is the narrow framing of environmental protection outcomes that major development proposals are expected to achieve. In Australia, environmental protection policies are based on (weak) ecological modernisation principles that defer to an overriding imperative for economic growth and corporate profitability in decision-making (Curran, 2015). Consistent with the philosophy of ecological modernisation, environmental protection standards, guidelines and policies focus on maintaining environmental and public health quality standards and applying technological solutions to environmental protection issues (Langhelle, 2000). While broad sustainability objectives and application of the precautionary principle are identified in environmental policies, these concepts have not been operationalised, and hence environmental and social considerations are readily traded off against economic growth and profitability imperatives and uncertainty is easily ignored in decision-making by proponents and politicians (Jay, Jones, Slinn, & Wood, 2007; Riley, 2016). In this setting, a positivist and rationalist approach to EIA is promoted by industrial and political agents. Information and discourses that might challenge these paradigms are readily dismissed as being subjective, uncertain and thus not authoritative. Perhaps the most important implication of this is that both conceptual learning and transformation of the norms and values that underlie decision-making are suppressed. Opening up of the EIA process to accommodate broader and more challenging discourse and debate will help to shift the balance of matters considered in decision-making (Owens, Rayner, & Bina, 2004). However it is important to remember that EIA was designed as an action-forcing mechanism to achieve broader policy settings rather than as a means to set the policy agenda.

4 Conclusion

While the requirement to undertake EIA does influence some proponents to incorporate environmental considerations into decision-making, EIA procedure does not promote consistent behaviour by proponents. Significant opportunities are lost due to misalignment between EIA processes and major development proposal planning and design processes, and lack of mechanisms to hold proponents accountable for decision-making. It is also clear that EIA's influence is constrained to a relatively narrow range of matters by the regulatory and policy framework which in turn is driven by the economic, social and political context in which EIA takes place. Mechanisms such as debate and discourse, that might challenge this

context are suppressed by the dominance of economic growth objectives and positivist and rationalist framings of EIA.

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