Principles for Effective Impact Assessment: Examples from Western Australia

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Abstract
What makes an impact assessment process effective with respect to underlying legal and other principles? Prompted by a local review of administrative processes for environmental impact assessment (EIA), I identify 10 key aspects of IA legislation and practice in Western Australia along with corresponding principles. The EIA system in Western Australia (WA) has established an international reputation as a strong model for successful practice, and draws on more than 30 years of operation. Recent government reviews pose some threat and uncertainty regarding the future. In this context I reflected on the key ingredients of the legal and operating framework and realised that each conformed with important principles for good practice. Examples include a significance test at the screening step based on an environment-centred approach; public involvement that upholds natural justice expectations, transparency and accountability; the application of rational-scientific principles in the pursuit of adaptive environmental management; as well as upholding the polluter pays principle by ensuring that the proponent is responsible for all major EIA tasks and outcomes which in turn are legally binding and enforced. I outline each of the 10 principles using extracts from the legal arrangements for EIA in WA practice to illustrate each. I argue that the simultaneous attainment of all principles is necessary to deliver an effective impact assessment practice. The WA arrangements may have relevance to practice elsewhere in the world. I conclude with some observations on the implications of recent EIA review for the situation in Western Australia.

Introduction
Participation in several reviews of environmental impact assessment (EIA) procedures within Australia led me to become interested in the question: 'What makes an impact assessment process effective with respect to underlying legal principles?'. My specific interest revolves around the legal and administrative provisions for EIA within the state of Western Australia (WA). When evaluating EIA systems in different parts of the world, Wood (1999) stated that: 'Widely perceived as a comprehensive and effective EIA system, Western Australia's EIA process is of particularly comparative interest'.

On the one hand I have been a participant in a review of the EIA process in WA (e.g. EPA 2009 is one of these); on the other my involvement in similar reviews of EIA processes in other Australian states/territories was on the basis of outlining the strengths and weaknesses of practice in WA in order to provide useful input to their review activities. Both scenarios involved me reflecting on the core underpinning principles of the WA approach to EIA including questions about the original purpose or intent of certain EIA provisions and their effectiveness in practice.

In this paper, my purpose is to focus on legal and other principles underpinning the EIA process in WA. I do this by briefly discussing the principles involved with reference to the IAIA best practice principles and other documents from the international EIA literature and illustrate how these are captured in current legal and administrative provisions in WA. Limited space here does not permit an attempt to evaluate actual outcomes of applying EIA in practice. For the purposes of this paper I simply assume that effective environmental outcomes are more likely to arise from a legally comprehensive and effective process in relation to the best practice principles. My recommendations to EIA practitioners in the concluding section are thus based on process considerations alone.

Principle 1. Think before act and consider alternatives (planning tool)
The simple definition of impact assessment employed by IAIA (2009) as: 'the process of identifying the future consequences of a current or proposed action' essentially establishes EIA as a planning tool whereby the consequences of development are carefully considered before action is taken. It can be

generally held that a core purpose of planning, especially the way land-use or spatial planning is contextualised as a profession, is to deliver the greatest common good for the affected community and their surrounding environment. A key mechanism for achieving this in EIA processes is through consideration of alternatives by allowing the development option that offers the greatest environmental protection opportunities to be selected.

In Western Australia the key legal instrument for EIA is the *Environmental Protection Act 1986* (*EPAct*). The EPAct establishes the Environmental Protection Authority (EPA - or 'Authority') which has the objective 'to use its best endeavours (a) to protect the environment; and (b) to prevent, control and abate pollution and environmental harm' (s15). To meet this objective, the *EPAct* identifies various functions of the EPA, the first of which is 'to conduct environmental impact assessments' (s16).

Section 122 of the *EPAct* empowers the EPA to "draw up administrative procedures ... in particular for the purpose of establishing the principles and practices of environmental impact assessment". The current version of the EIA administrative procedures were published in the Western Australian Government Gazette in November 2010 (hereafter *Admin Procedures 2010*). These procedures establish the basis for carefully planning and considering development proposals before implementation. For example in the Preamble it states that:

> Environmental impact assessment is a systematic and orderly evaluation of a proposal and its impact on the environment. The assessment includes considering ways in which the proposal, if implemented, could avoid, reduce and ameliorate the impacts on the environment, including its alternatives.

Further on *Admin Procedures 2010* (s5) outlines 'principles of EIA for the proponent' which includes the expectation that: 'Proponents will use best practicable measures and genuine evaluation of options or alternatives in siting, planning and designing their proposals to mitigate detrimental impacts on the environment'. Thus the planning function of EIA in WA is disclosed in several ways.

Finally, it should be noted that under sections 41 and 41A of the *EPAct* unauthorised implementation of a development proposal is not permitted and any person who does so commits an offence. Thus action is not allowed to proceed until the EIA process has been completed, meaning that the environment is given due consideration before development proposals likely to adversely impact on it are authorised and implemented. In other words, EIA as practiced in WA mandates the 'think before act' principle.

Principle 2. Environmental significance screening test (environment-centred)

An objective of EIA identified by IAIA and IEA (1999) is to 'ensure that environmental considerations are explicitly addressed and incorporated into the development decision making process' meaning that an environment-centred approach is implied. When screening to determine whether or not an EIA is needed, EIA regulations may either specify the type of projects (i.e. development-centred) to which EIA should apply or focus on the likely environmental impacts and their significance. Thereafter, either established thresholds or taking a case-by-case approach are the two main screening approaches (e.g. Glasson et al 2005, pp90-91).

In WA, projects are screened on a case-by-case basis and with a test of environmental significance applied. Specifically s37B of the *EPAct* defines a 'significant proposal' to mean 'a proposal likely, if implemented, to have a significant effect on the environment' while s38 provides mechanisms for any person to refer a significant proposal to the EPA and s39A(1) specifies that: 'When a proposal is referred to the Authority under section 38, the Authority is to decide whether or not to assess the proposal'. In light of the objectives of the EPA outlined previously, this decision ensures that the environment takes central consideration in determining the need for EIA.

Principle 3. Proponent is responsible (polluter-pays)

A well established principle established in environmental law is the polluter-pays principle by which 'those who generate pollution bear the cost of containment, avoidance, or abatement' (Bates 1997 p157). While environmental pollution matters specifically do arise for some EIAs, this principle can be broadened for all EIA practice putting it in terms of the proponent of development that will impact on the environment should be responsible for undertaking the environmental studies and preparing the

main EIA documents as well as being responsible for the necessary mitigation and environmental protection activities when the development is implemented.

In WA, s38(6) of the *EPAct* establishes the process for the Environment Minister to 'nominate by notice in writing… a person as being responsible for each proposal ' that is subject to EIA while s40(2) enables the EPA 'for the purposes of assessing a proposal' to 'require the proponent to undertake an environmental review and to report thereon to the Authority'. There are several components of the *Admin Procedures 2010* which document the various responsibilities for proponents in undertaking EIA; perhaps most telling is one of the stated objectives of EIA in s3 which is: 'To ensure that the proponents of proposals take primary responsibility for protection of the environment relating to their proposals'. Thus the polluter pays principle clearly underpins the legal arrangements for EIA in WA.

Principle 4. Identify, predict, monitor and mitigate environmental effects (rational-scientific process)

IAIA (2009) acknowledge that impact assessment has a dual nature, one side of which is as: 'a technical tool for analysis of the consequences of a planned intervention'. Similarly one of the 'Basic Principles' for EIA established by IAIA & IEMA (1999) is that it be : 'Rigorous - the process should apply “best practicable” science, employing methodologies and techniques appropriate to address the problems being investigated.' Thus EIA may be framed at least in part as a rational-scientific process. Determining the baseline environment, predicting the effects of a proposed activity on the environment, developing mitigation measures and monitoring their efficacy during implementation are EIA activities that especially invite scientific input. Where monitoring indicates that environmental performance is unacceptable, adaptive management should be undertaken to remedy the situation.

An objective of EIA in WA is: 'To provide a basis for ongoing environmental management and improvement, including through the results of monitoring' (*Admin Procedures 2010*, s3) while the 'Principles of EIA for the Proponent' (s5) state that an environmental review conducted by the proponent should consider the: 'efficacy of the investigations to produce sound scientific baseline data about the receiving environment' and identify 'best practicable measures and procedures to mitigate, monitor and manage environmental impacts'. Thus it is clear that EIA in WA should be conducted with an emphasis on rational-scientific principles and adaptive management.

Principle 5. Equitable environmental protection now and for long term (sustainability)

An objective of EIA established by IAIA & IEA (1999) is: 'To promote development that is sustainable and optimizes resource use and management opportunities'. IAIA (2009) similarly suggest that impact assessment should: 'Contribute to environmentally sound and sustainable development' while Vanclay (2003) states that impact assessment should 'bring about a more ecologically, socio-culturally and economically sustainable and equitable environment'.

In WA five sustainability principles are defined in the object and principles of the *EPAct* (s4A) relating to: being precautionary; intergenerational equity; conservation of biological diversity and ecological integrity; improved valuation, pricing and incentive mechanisms; and the principle of waste minimisation. A stated objective of EIA established in the *Admin Procedures 2010* (s3) is to 'protect the environment' having regard to these principles. Thus a sustainability basis for EIA in WA is established in the legal framework.

Principle 6. Affected persons consulted before decisions taken (natural justice)

An aim of impact assessment identified by IAIA (2009) is to: 'Promote transparency and participation of the public in decision-making'. More specifically a basic principle of EIA stated by IAIA & IEA (1999) is to be: 'Participative - the process should provide appropriate opportunities to inform and involve the interested and affected publics, and their inputs and concerns should be addressed explicitly in the documentation and decision making'. Craik (2008, p31) refers to public participation as the 'soul' of EIA while Andre et al (2006) note that it is essential for good governance. There is a strong correlation between the legal principle of natural justice which includes the 'right to a fair hearing and the opportunity to present one's case' (Bates 1997, p137) and best practice public participation in EIA (Morrison-Saunders and Early 2008). In Europe, the Aarhus *Convention on Access to Information,*

Public Participation and Access to Justice in Environmental Matters 1998 (Available: www.unece.org/env/pp/treatytext.htm - accessed 17 January 2011) which is applicable to EU member countries engaging in EIA is a good example of this. In Australian environmental law, the principle of natural justice is similarly well established both in statutes and arising from case law (e.g. Bates 2010, pp751-758).

In WA, one overall objective of EIA is to: 'engage communities surrounding a proposal, the public generally and other relevant decision-making authorities in consideration of the environmental impacts of a proposal' (*Admin Procedures 2010*, s3) while the proponent is expected to 'consult … the community as early as possible in the planning of the proposal; during the environmental review and assessment of the proposal; and where necessary during the life of the proposal' (s5). Thus affected persons are consulted before decisions are taken and the principle of natural justice is implicitly embedded in the EIA process in WA.

Principle 7. Transparent and open process with third party appeal rights (accountability)

Closely related to the previous principle is that of transparency of process. A basic principle for EIA established by IAIA & IEA (1999) is that it should be: 'Transparent - the process should have clear, easily understood requirements for EIA content; ensure public access to information; identify the factors that are to be taken into account in decision making; and acknowledge limitations and difficulties'. In this way there is accountability to all stakeholders engaged in the EIA process. Further accountability can also be achieved through provision of third party appeal rights for those aggrieved by an EIA decision.

In WA, s39 of the *EPAct* directs the EPA to 'keep a public record of each proposal referred to it' while s40 empowers the EPA to 'cause any information or report' generated during the EIA process 'to be made available for public review'. Other aspects of public engagement with respect to the role of proponents have previously been discussed. In addition, the assessment report prepared by the EPA for each EIA is a public document and is subject to third party appeals as specified in s100 of the *EPAct* and decisions of the Environment Minister (e.g. EIA approvals and conditions imposed on proponents) also are publicly disclosed (s45). Thus the EIA process in WA is fully transparent, open and accountable.

Principle 8. Independent advice provided to decision-makers (integrity)

One aspect of natural justice is the 'right to have a decision made by an unbiased or disinterested decision maker and the right to have that decision based on logically probative evidence' (Bates 1997, p136). IAIA and IEA (1999) state that an EIA process should be credible meaning that it 'should be carried out with professionalism, rigor, fairness, objectivity, impartiality and balance, and be subject to independent checks and verification'. In short the notion of integrity lies at the heart of good EIA.

One objective of EIA in WA is to: 'ensure decisions are made in relation to the implementation of a proposal following the provision of timely and sound advice as to the environmental impacts of the proposal' (*Admin Procedures 2010*, s3). In practice this advice is provided to the Environment Minister (i.e. the decision-maker) by the EPA. Significantly, s8 of the *EPAct* establishes the statutory independence of the EPA stating that: 'neither (a) the Authority; nor (b) the Chairman [of the EPA], shall be subject to the direction of the [Environment] Minister'. This feature of EIA in WA was a particular strength noted by Wood (1999) in his international comparative evaluation of a dozen or so EIA systems around the world.

Principle 9. Approval decision by elected politician (democracy)

While there is advocacy for 'promoting equity and democratisation' in impact assessment (Vanclay 2003) and for 'socio-ecological civility and democratic governance' in sustainability assessment (Gibson et al 2005, pp 107-111), there is no specific guidance provided by organisations such as IAIA as to who should be responsible for making approval decisions. My personal belief is that this task is most appropriately carried out by an elected official or politician (e.g. Environment Minister) and this arrangement would appear to be the norm in most practice worldwide. EIA is one input to decision-making on what are typically complex and controversial development proposals. Craik (2008, p38)

states that: 'EIA processes are structured on the basis that there are not necessarily right or optimal solutions, but rather decisions will often involve the privileging of one set of interests over another - a circumstance that must be resolved through political, not scientific or technical means'. It would be inappropriate to vest decision-making responsibility with a technical body responsible for undertaking the day-to-day tasks of EIA (e.g. such as the EPA in WA). Such a model would mean that the findings of an EIA with respect to likely effects on the environment themselves would be explicitly or directly translated into the approval decision. This would take power away from elected government and vest it instead with the EIA regulator thus elevating them to equivalent status of parliament; this would be counter to the way in which democratic governance systems are typically structured.

In WA, apart from the screening decision regarding which proposals are subject to EIA, all other decisions are vested with the Environment Minister. In the *EPAct*, s45(1) outlining the 'procedure for deciding on implementation of proposals' directs the Environment Minister to consult with other affected Ministers 'on whether or not the proposal to which the report relates may be implemented and, if that proposal may be implemented, to what conditions and procedures, if any, that implementation should be subject'. While the advice and recommendations of the EPA to the Environment Minister are subject to third party appeals as outlined previously, only the proponent may lodge an appeal against decisions of the Minister (s100(3)) of the *EPAct* regarding the 'conditions or procedures agreed under section 45(1)'. If the EPA itself was the EIA decision-maker, then it would lose its statutory independence and would become highly politicised. The WA approach ensures that the environment is strongly represented (i.e. the EPA is an environmental advocate) while decision-making remains at the political level by a government minister who is ultimately chosen through a democratic election process.

Principle 10. Approval conditions legally binding, auditable and enforced (credibility)

The IAIA principles for impact assessment do not extend to specifying that EIA approval conditions be legally binding, however IAIA & IEA (1999) do advocate that follow up should occur which 'will ensure that the terms and condition of approval are met' which implies some certainty in enforcement. Following through with implementation of the findings and decisions of an EIA is an important element for ensuring credibility of process.

In WA, the Environment Minister's statement of approval conditions and procedures established under s45(1) of the *EPAct* (discussed previously) is legally binding on the proponent. The *Admin Procedures 2010* (s15) states that: 'A proponent who does not ensure that any implementation of the statement is carried out in accordance with the implementation conditions and procedures, commits an offence'. Section 48 of the *EPAct* entitled 'Control of implementation of proposals' establishes provisions for follow-up auditing and enforcement by enabling the Chief Executive Officer (of the Office of the EPA) to 'monitor the implementation of a proposal, or cause it to be monitored, for the purpose of determining whether the implementation conditions relating to the proposal are being complied with' and goes on to outline procedures to be followed in cases of non-compliance. In practice discrete and specific requirements for follow-up are embedded into the approval conditions for each proposal assessed. An initiative of the recent review of EIA practice in WA has been an emphasis on 'Outcome focused environmental conditions – [development of] clear, relevant, reasonable and auditable environmental conditions' (EPA 2009, pi) thus aiming to ensure that legal compliance equates directly to environmental protection. Collectively these examples demonstrate that the EIA process in WA is underpinned by strong legal provisions that give it credibility and ensure the outcomes are binding on proponents.

Putting the Pieces Together

There are other EIA principles in the various IAIA documents cited previously that have not been addressed in this paper (e.g. IAIA & IEA 1999 also include 'cost effective', 'efficient' and 'systematic' plus several others as Basic Principles). This is not to say that these are not important for an effective EIA process, but perhaps they relate more to practice rather than matters that can be captured in legal prescriptions. Additionally, there are also other legal aspects of EIA in WA that have not been addressed in this paper. One example is the definition of 'environment', another relates to specified timeframes for carrying out various EIA tasks; both affect the effectiveness of practice in terms of the

scope of EIA (e.g. the environment definition limits consideration of socio-economic issues) and ability to address these comprehensively in the timeframes available to regulators and decision-makers to perform their duties.

The ten principles outlined in this paper are what I consider to be the core principles for an effective EIA process. I hope that framing them in this fashion will be of some use or interest to EIA practitioners and regulators elsewhere. Although I have discussed them separately these legal principles are inter-related and mutually reinforcing. I am of the view that *all* of them are necessary for a truly effective EIA system. They are also in large part directly related to substantive aspects of EIA rather than procedural matters alone. Space limitations do not permit examples of outcomes arising from practice to be explored. While I could point to aspects of EIA practice in WA that could be improved (i.e. it is always possible to do better), I do not see how the underlying legal provisions themselves could be enhanced. However, removing one or more of these principles would undermine the entire practice of EIA in WA. Together they provide for a process that seeks to attain the best 'deal' for the environment and affected community for the long-term future with a reasonable level of confidence, credibility and integrity.

One feature of EIA in WA is that all types of EIA carried out; i.e. whether project-based or forms of strategic assessment; must deliver on each of these ten substantive aspects. Recent reviews of EIA have challenged some of these principles - for example, some additional third party appeal rights at the screening step were removed from the *EPAct* in December 2010 and a new alternative public participation step by the EPA is now carried out instead. This places a further strain on the resources and responsibilities of the EPA in the process; the effects of which are yet to be known. In light of the number of reviews of EIA that the state government has initiated in recent years, it seems likely that other changes to the *EPAct* may be instigated. Because I cannot see how the EIA provisions in the *EPAct* could be enhanced, any legislative change represents likelihood of a weakening or undermining of what currently stands as particularly good example of legal provisions for an effective EIA system. This paper serves to record the current strengths of the EIA system in WA as expressed in the legal arrangements.

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